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County of Los Angeles
CHIEF EXECUTIVE OFFICE
Kenneth Hahn Hall of Administration
500 West Temple Street, Room 713, Los Angeles, California 90012
(213) 974-1101
http://ceo.lacounty.gov

WILLIAM T FUJIOKA
Chief Executive Officer

December 28, 2011

To: Supervisor Zev Yaroslavsky, Chairman
Supervisor Gloria Molina
Supervisor Mark Ridley-Thomas
Supervisor Don Knabe
Supervisor Michael D. Antonovich

From: William T Fujioka *Ellen F. Sandt for*
Chief Executive Officer

STATUS ON THE FEASIBILITY OF MOVING THE TOXICOLOGY LAB FROM THE AGRICULTURAL COMMISSIONER/DEPARTMENT OF WEIGHTS AND MEASURES TO THE DEPARTMENT OF PUBLIC HEALTH

On December 6, 2011, your Board directed my office to report back within a month on the feasibility of moving the Toxicology Lab from the Agricultural Commissioner/Department of Weights and Measures (ACWM) to the Department of Public Health (DPH).

In response to your Board's directive, on December 20, 2011, a workgroup comprised of staff from ACWM, DPH, and my office met to review and discuss topics that will formulate the basis for the County's recommendation on the feasibility of transferring ACWM's Environmental Toxicology Laboratory (Toxicology Lab) to DPH. The topics discussed included:

- the history and origin of the Toxicology Lab;
- the mission, duties, and responsibilities (services provided/laboratory tests performed) of the Toxicology Lab and DPH's Public Health Laboratory (Public Health Lab);
- the mandates and certification requirements that the Toxicology Lab must adhere to and/or maintain;
- an understanding of how the County's placement of the Toxicology Lab in ACWM compares to the placement of toxicology labs throughout the State of California;
- background on the organizational structure and budgetary composition of the Toxicology Lab; and
- the operational issues and financial constraints affecting both the Toxicology Lab and the Public Health Lab.

Based on the December 20, 2011 discussion, the departments determined there were critical matters still to be discussed and/or assessed that could have a significant impact on the final recommendation, including laboratory requirements, space needs and necessary one-time/ongoing laboratory costs. Having a greater understanding of the Toxicology Lab's workload, certification requirements, operational constraints, and financial performance will be critical to determine the impact that the transfer could have on the operational and financial challenges that the Public Health Lab has encountered over the last several years related to State and federal funding reductions and a decreased workload from the Department of Health Services.

In addition to assessing the feasibility of the transfer, the County workgroup also discussed the potential value of formulating possible alternatives to the transfer of the Toxicology Lab from ACWM to DPH. On December 22, 2011, representatives of the Public Health Lab met with staff from ACWM's Toxicology Lab and completed a site visit of the Toxicology Lab to observe and obtain a first-hand understanding of the Toxicology Lab's operation, laboratory equipment, and space needs. Given the action items to be completed and their impact on the recommendations to be presented to your Board, we are requesting additional time. DPH and ACWM will complete their assessment, formulate their recommendation(s), and report back to your Board no later than February 15, 2012.

Should you have any questions or need additional information, you may contact Dr. Robert Kim-Farley, Director of DPH's Division of Communicable Disease Control and Prevention, at (213) 989-7161 or rkimfarley@ph.lacounty.gov, or Kurt E. Floren, Agricultural Commissioner/Department of Weights and Measures Director, at (626) 575-5451 or kfloren@acwm.lacounty.gov.

WTF:SAS:MLM
RFM:hd

c: Executive Officer, Board of Supervisors
Agricultural Commissioner/Department of Weights and Measures
Public Health

COUNTY OF LOS ANGELES
Public Health

JONATHAN E. FIELDING, M.D., M.P.H.
Director and Health Officer

JONATHAN E. FREEDMAN
Chief Deputy Director

313 North Figueroa Street, Room 806
Los Angeles, California 90012
TEL (213) 240-8117 • FAX (213) 975-1273

www.publichealth.lacounty.gov

April 17, 2012

TO: Each Supervisor

FROM: Jonathan E. Fielding, M.D., M.P.H. J E Fielding MD
Director and Health Officer

SUBJECT: **REPORT ON THE FEASIBILITY OF MOVING THE TOXICOLOGY LAB FROM THE DEPARTMENT OF AGRICULTURAL COMMISSIONER/ WEIGHTS AND MEASURES TO THE DEPARTMENT OF PUBLIC HEALTH**

On December 6, 2011, your Board directed the Chief Executive Officer (CEO) to report back within a month on the feasibility of moving the Environmental Toxicology Lab (ETL) from the Department of Agricultural Commissioner/Weights and Measures (ACWM) to the Department of Public Health (DPH).

On December 28, 2011, the CEO provided a status report to your Board wherein the CEO advised that there were critical matters yet to be discussed and/or assessed that could have a significant impact on the final recommendation. Additionally, the memo indicated that DPH would provide the final report.

On December 20, 2011, January 18, 2012, and March 20, 2012, a workgroup comprised of staff from ACWM, DPH, and CEO met to review and discuss the following topics related to the feasibility of transferring ACWM's ETL to DPH:

- The history and origin of the ETL;
- The mission, duties, services provided, and clients served by the ETL and DPH's Public Health Laboratory (PHL);
- The certification requirements and mandates of the ETL and PHL;
- The licensing and certification requirements of the staff in the ETL and PHL;
- An understanding of how the County's placement of the ETL in ACWM compares to the placement of other toxicology labs in the State of California;
- The organizational structure and budgetary composition of the ETL and PHL; and
- The operational issues and financial constraints affecting both the ETL and PHL.

On December 22, 2011, representatives from the DPH PHL met with staff from ACWM's ETL and completed an initial site visit of the ETL to observe and obtain a better understanding of its operation, laboratory equipment, and space needs.

Background

Environmental Toxicology Laboratory

Originally created in 1973 within the public health branch of the Los Angeles County Department of Health Services, the ETL was moved to ACWM in 1982. The purpose of this transfer was to better ensure the detection and enforcement of the proper use of pesticides as directed under a contract with the California Department of Food and Agriculture. When the State program ended, the ETL remained in ACWM.

Today, the ETL is a specialized laboratory offering a range of analytical and consulting services to both the private and public sectors. The ETL is currently the only environmental testing laboratory in the State of California at the county government level.

While there are no federal or State mandates that require Los Angeles County to have an environmental toxicology laboratory, certain County operations, such as water and sewerage services provided by the Department of Public Works (DPW), require periodic testing at a State-approved laboratory. Tests performed by the ETL are also performed by private labs, although laboratories may not perform the full spectrum of analyses offered by the ETL.

Current clients (and respective work by volume) of the ETL are as follows:

DPW (68%)

- Watershed Management
- Waterworks
- Water Resources
- Sewer Maintenance
- Flood Maintenance

DPH Environmental Health (10%)

- Drinking and Well Water Programs
- Lead Poisoning Prevention

County Fire Department (12%)

- Camp and Fire Station drinking and waste water

ACWM (5%)

- Pesticide wipe samples, Board of Supervisors requested studies

County Parks and Recreation Department (1%)

County Internal Services Department (1%)

Individual Municipalities (1%)

- Santa Fe Springs and Signal Hill

Private Companies (2%)

- ADM Mailing Company, LA Biomed WIC Program, Malibu Country Club, Honda/Acura of Downey, U & I Water

The ETL is a fee-based operation. The ETL's budgeted net County cost (NCC) as of the fiscal year (FY) 2011-12 Final Adopted Budget is $993,000 and is projected to be $981,000 in FY 2012-13. Presently, rates being charged for a variety of tests performed in the ETL are lower than the industry standards and may not be reflective of actual costs for the testing processes. In a 2010 survey, the ETL compared its rates for ten common drinking water tests to rates charged by three local private environmental testing labs, which indicated that the ETL rates are lower in nine of ten instances. In additional rate comparisons performed in 2011 and early 2012, comparing rates of all ETL analyses also offered by local private laboratories, ETL rates were determined to be lower than the average of private lab rates in 52 of 61 cases. Regrettably, efforts over the past few years to conduct comprehensive reviews of charge rates were not completed due to unresolved errors discovered in time studies, retirement of the laboratory Deputy Director, recent implementation of the Laboratory Information Management System (LIMS) software (which has required a significant investment in laboratory staff time for training and system incorporation into lab processes), and the need for consideration of LIMS-initiated efficiencies and/or costs in determining final rates. The fact that comparisons to private lab rates for water testing show feasibility for possible rate increases with a relatively low risk of loss of analytical business to such laboratories, together with the fact that water analyses comprise the bulk of the ETL work, suggest that some increases are achievable that may serve to diminish the NCC associated with operation of the ETL.

Currently, the ETL has four vacant budgeted positions, one of which is that of the Deputy Director, budgeted to provide managerial oversight of the ETL. The ETL occupies 9,240 square feet on two floors at the ACWM South Gate facility. The space is no longer adequate for the ETL operations and there may be needs for repair/upgrade of the physical facilities. If the ETL were moved from this facility, the vacated space could be used for other ACWM operations. This would relieve existing space management concerns for ACWM and eliminate the need to acquire additional office space to accommodate current staff workspace and equipment storage needs resulting from ACWM's more than 30 percent expansion over the past five years, for which no additional office space has been acquired.

Public Health Laboratory

The PHL's mission and mandate is to provide laboratory testing services geared towards the detection, control, and prevention of communicable diseases of public health importance within the County of Los Angeles. To carry this out, the PHL performs high-complexity testing for the diagnosis and treatment of human infections, which primarily falls into five arenas: (1) primary testing in support of County agencies tasked to detect high-incidence or emerging diseases such as sexually-transmitted infections or pandemic influenza; (2) reference testing to provide definitive identification of problematic infections in patients from hospitals, medical centers, or clinics; (3) phenotypic and molecular fingerprinting of bacterial strains linked to outbreaks of foodborne disease; (4) microbiological environmental testing in support of surveillance and remediation activities concerning potable and industrial waters, and consumable products such as dairy for possible contamination or adulteration; and (5) threat analysis and biomonitoring for the presence of Select Agents, including anthrax, plague, and tularemia.

In addition to DPH programs, the PHL provides these laboratory services to internal and external clients within the County. The majority of these clients are interfaced with the PHL through the Sunquest Laboratory Information System, which enables electronic test ordering and reporting. Over 400,000 tests are performed annually by the PHL. The PHL is governed by a number of federal licensures and State mandates.

The total operating expenditures for the PHL has varied considerably over the past several years. Prior annual expenditures for the PHL are as follows:

- FY 2008-09 = $12.0 million;
- FY 2009-10 = $12.1 million; and
- FY 2010-11 = $9.7 million.

The estimated PHL expenditures for FY 2011-12 are $10.0 million. Based upon FY 2010-11 actual expenditures and FY 2011-12 estimated expenditures, the PHL may potentially experience a 20 percent decrease in funding. During the past two years, federal grant funds awarded to the PHL, including the Tuberculosis Control and Prevention and the Enhanced Laboratory Capacity Grants, have similarly decreased in the range of 9.4% to 14.9%.

Currently the PHL has 12 unfilled budgeted positions. The main facility at 12750 Erickson Avenue in Downey occupies approximately 33,000 square feet and is currently operating at an estimated 90 percent capacity. Build-out capacity involving additional large-scale automated instrumentation is extremely limited and would require reconfiguration of existing infrastructure. Much of the small amount of vacant remaining space (approximately 10 percent) is currently used for Centers for Disease Control and Prevention-dictated training activities or office space. An additional problematic issue is that the laboratory in Downey sits at the end of a power grid and therefore is subject to extreme fluctuations in electrical energy during the summer months. If there were additional expansion of the PHL, options for improving the electrical supply would have to be explored.

Organizational Alignment of the ETL in the County

The feasibility of moving the Toxicology Lab to DPH was extensively explored by the ACWM, DPH, and CEO workgroup. Below is a summary of key issues with respect to the organizational alignment of the ETL in the County:

ETL and PHL Workloads and Operations

- The ETL and the PHL have disparate workloads, function different operationally, require different types of State certifications, and necessitate different types of certified staffs. Due to these factors, the ability to integrate staffs to improve quality and gain efficiencies is limited.

Health Officer Responsibilities

- Laboratory analysis is an important capability needed for the County Health Officer to perform investigative and regulatory activities. The PHL provides this capability for the most common types of disease threats and cases for DPH, namely bacteriology and virology services. In other more limited areas, such as regulation of small water systems, DPH relies on laboratory results submitted by the operator from a State approved laboratory. In some instances, the ETL provides this service, but most water agencies use an in-house or private lab. The DPH regulatory responsibility would continue regardless of the ETL organizational placement.

Space

- Both the ETL and the PHL have space constraints. The PHL does not currently have the space needed to house the ETL and so new space would need to be created. The projected minimum costs to construct a new ETL at the Downey site range from $3.9 to $5.2 million. It should be noted that even if the ETL remained at its current site, which would not be ideal for oversight/supervision, there would still need to be significant costs to upgrade the facility.

Next Steps

As is evident in the descriptions of the labs, the workloads of the ETL and the PHL as well as the staffing and laboratory certifications are very different. Moving the ETL to DPH would not result in significant efficiencies.

Based on our review, there are the following two possibilities:

1) *Remain status quo and keep both labs as they are currently functioning.* With this option, there are two significant considerations: 1) most of the analytic work of the ETL is not related to the core mission of ACWM and 2) the ETL consumes space that the ACWM would otherwise use as needed office space.

2) *Transfer the ETL to DPH.* Under this option, there are the following issues to consider: different missions/workloads; different required certifications and specialized staff; the current administrative/supervisory capacity at the PHL is limited; additional oversight responsibilities would be required if the ETL was transferred to DPH; and the PHL has no currently available space to absorb the ETL.

Given the complexities of the ETL and PHL, there is no apparent optimal organizational alignment of the ETL in the County. In order to complete a more comprehensive analysis, DPH, ACWM and CEO will proceed with an independent third party County-approved consulting firm with experience in public management and/or health services to review the issue and provide recommendations. The consultant should also be asked to examine the workload, budget, and space needs of the ETL. In order to facilitate this, we are requesting a three-month extension to July 10, 2012.

If you have any questions or would like additional information, please let me know.

JEF:rkf

c: Chief Executive Officer
Acting County Counsel
Executive Officer, Board of Supervisors
Department of Agricultural Commissioner/Weights and Measures

COUNTY OF LOS ANGELES
Public Health

JONATHAN E. FIELDING, M.D., M.P.H.
Director and Health Officer

JONATHAN E. FREEDMAN
Chief Deputy Director

313 North Figueroa Street, Room 806
Los Angeles, California 90012
TEL (213) 240-8117 • FAX (213) 975-1273

www.publichealth.lacounty.gov

July 16, 2012

TO: Each Supervisor

FROM: for Jonathan E. Fielding, M.D., M.P.H.
Director and Health Officer

SUBJECT: **REPORT ON THE FEASIBILITY OF MOVING THE TOXICOLOGY LAB FROM THE DEPARTMENT OF AGRICULTURAL COMMISSIONER/ WEIGHTS AND MEASURES TO THE DEPARTMENT OF PUBLIC HEALTH**

This is to provide an update on the actions taken to respond to the December 6, 2011 Board motion instructing the Chief Executive Officer (CEO) to report back within a month on the feasibility of moving the Environmental Toxicology Lab (ETL) from the Department of Agricultural Commissioner/Weights and Measures (ACWM) to the Department of Public Health (DPH).

In an April 17, 2012 memo to your Board, DPH, ACWM, and CEO recommended contracting with an independent third party County-approved consulting firm with experience in public management and/or health services to review the issue; examine the workload, budget, and space needs of the ETL; and provide recommendations. Since that time, DPH has worked with the CEO to identify an appropriate Master Agreement and to develop a Request for Services (RFS), including the statement of work, deliverables, and timetable.

DPH anticipates releasing the RFS in early August 2012 to qualified vendors on the CEO's Master Agreement list for as-needed strategic planning and/or process improvement services, and vendors will be given three weeks to respond to the RFS. Proposals will be scored using the informed averaging evaluation process and factors such as project approach, proposed staff assigned to the project, project completion time, and lowest cost will determine the winning score. DPH anticipates selection by September 2012. Therefore, we will submit our next update by October 10, 2012. We are confident that this process will result in a comprehensive analysis and provide key recommendations for moving forward.

In the meantime, if you have any questions or need additional information, please let me know.

JEF:cy
PH:1112:007

c: Chief Executive Officer
County Counsel
Executive Officer, Board of Supervisors
Agricultural Commissioner/Weights and Measures

COUNTY OF LOS ANGELES
Public Health

JONATHAN E. FIELDING, M.D., M.P.H.
Director and Health Officer

CYNTHIA A. HARDING, M.P.H.
Acing Chief Deputy Director

313 North Figueroa Street, Room 806
Los Angeles, California 90012
TEL (213) 240-8117 • FAX (213) 975-1273

www.publichealth.lacounty.gov

October 5, 2012

TO: Each Supervisor

FROM: Jonathan E. Fielding, M.D., M.P.H. Cynthia A Harding
Director and Health Officer

SUBJECT: **REPORT ON THE FEASIBILITY OF MOVING THE TOXICOLOGY LAB FROM THE DEPARTMENT OF AGRICULTURAL COMMISSIONER/ WEIGHTS AND MEASURES TO THE DEPARTMENT OF PUBLIC HEALTH**

This is to provide an update on the actions taken to respond to the December 6, 2011 Board motion instructing the Chief Executive Officer (CEO) to report back within a month on the feasibility of moving the Environmental Toxicology Lab (ETL) from the Department of Agricultural Commissioner/Weights and Measures (ACWM) to the Department of Public Health (DPH).

In an April 17, 2012 memo to your Board, DPH, ACWM, and CEO recommended contracting with an independent third party County-approved consulting firm with experience in public management and/or health services to: review the issue; examine the workload, budget, and space needs of the ETL; and provide recommendations.

Since the last update to your Board on July 16, 2012, DPH released a Request for Services to qualified vendors on the CEO's Master Agreement list for as-needed strategic planning and process improvement services. A vendor has been identified and the Purchase Order request is currently being processed. Once the PO has been executied, the vendor has 45 business days to produce a final report. We will submit our next update to your Board in mid-December.

In the meantime, if you have any questions or would like additional information, please let me know.

JEF:mq
PH:1112:007

c: Chief Executive Officer
County Counsel
Executive Officer, Board of Supervisors
Agricultural Commissioner/Weights and Measures

COUNTY OF LOS ANGELES
Public Health

JONATHAN E. FIELDING, M.D., M.P.H.
Director and Health Officer

CYNTHIA A. HARDING, M.P.H.
Acting Chief Deputy Director

313 North Figueroa Street, Room 806
Los Angeles, California 90012
TEL (213) 240-8117 • FAX (213) 975-1273

www.publichealth.lacounty.gov

December 3, 2012

TO: Each Supervisor

FROM: Jonathan E. Fielding, M.D., M.P.H. J E Fielding MD
Director and Health Officer

SUBJECT: **REPORT ON THE FEASIBILITY OF MOVING THE TOXICOLOGY LAB FROM THE DEPARTMENT OF AGRICULTURAL COMMISSIONER/ WEIGHTS AND MEASURES TO THE DEPARTMENT OF PUBLIC HEALTH**

This is to provide an update on the actions taken to respond to the December 6, 2011 Board motion instructing the Chief Executive Officer (CEO) to report back on the feasibility of moving the Environmental Toxicology Lab (ETL) from the Department of Agricultural Commissioner/Weights and Measures (ACWM) to the Department of Public Health (DPH).

In an April 17, 2012 memo to your Board, DPH, ACWM, and CEO recommended contracting with an independent third party County-approved consulting firm with experience in public management and/or health services to: review the issue; examine the workload, budget, and space needs of the ETL; and provide recommendations.

Since the last update to your Board on October 5, 2012, the consultant project has begun, and DPH and ACWM have met with the selected vendor on multiple occasions. To date, the consultant has completed the following: conducted numerous interviews with key individuals, including ETL and Public Health Laboratory (PHL) staff, the CEO, and the former ETL Deputy Director; collected data related to operations, staffing, certification requirements, budget, workload, and client base; assessed space needs; and developed a questionnaire to evaluate how ETL testing services are provided in other counties.

The vendor is continuing to gather and analyze information that is needed to complete their evaluation and provide recommendations. The consultant's final report will be provided in mid-January 2013 which will then be reviewed and discussed by a workgroup comprised of staff from ACWM, DPH, and the CEO. A final report is anticipated to your Board by February 15, 2013.

In the meantime, if you have any questions or would like additional information, please let me know.

JEF:mq
PH:1112:007

c: Chief Executive Officer
County Counsel
Executive Officer, Board of Supervisors
Agricultural Commissioner/Weights and Measures

COUNTY OF LOS ANGELES
Public Health

JONATHAN E. FIELDING, M.D., M.P.H.
Director and Health Officer

CYNTHIA A. HARDING, M.P.H.
Chief Deputy Director

313 North Figueroa Street, Room 806
Los Angeles, California 90012
TEL (213) 240-8117 • FAX (213) 975-1273

www.publichealth.lacounty.gov

February 21, 2013

TO: Each Supervisor

FROM: Jonathan E. Fielding, M.D., M.P.H. Jonathan E Fielding
Director and Health Officer

Kurt Floren
Agricultural Commissioner/Director of Weights and Measures

SUBJECT: **REPORT ON THE FEASIBILITY OF MOVING THE TOXICOLOGY LAB FROM THE DEPARTMENT OF AGRICULTURAL COMMISSIONER/ WEIGHTS AND MEASURES TO THE DEPARTMENT OF PUBLIC HEALTH**

This is the final report on the actions that have been taken by the Chief Executive Officer (CEO), the Department of Public Health (DPH), and the Agricultural Commissioner/Weights and Measure (ACWM) to respond to the Board's December 6, 2011 motion in which the Board directed the CEO, DPH, and ACWM to report back on the feasibility of moving the Environmental Toxicology Lab (ETL) from ACWM to DPH.

In an April 17, 2012 memo to your Board, a workgroup comprised of staff from DPH, ACWM, and CEO extensively explored the feasibility of moving the ETL to DPH, and concluded that this movement would not result in significant efficiencies. The workgroup's review of this matter also determined that there is no apparent optimal organizational alignment of the ETL within the County government. In order to receive a thorough review, however, DPH and ACWM recommended contracting with an independent third party County-approved consulting firm with experience in public management and/or health services to: review the issue; examine the workload, budget, and space needs of the ETL; and provide recommendations.

Since the last update to your Board on December 3, 2012, the consultant has completed the review and provided the analysis and recommendations in the attached report. The consultant met with DPH and ACWM on multiple occasions; conducted numerous interviews with key individuals, including staff from the ETL, the DPH Public Health Laboratory (PHL), the CEO, the Internal Services Department (ISD), and the Department of Public Works (DPW); collected data related to operations, staffing, certification requirements, budget, workload, and client base; assessed space needs; and evaluated how ETL testing services are provided in other counties.

Executive Summary of Consultant's Findings

The consultant concurred with the workgroup's conclusions that integrating the ETL and PHL would not result in any significant quality improvements or efficiencies due to the significant differences between the two laboratories. The ETL and the PHL have disparate workloads, function differently in their operations, maintain different types of State certifications, and require different types of certified staff. In addition, both laboratories have space constraints and the PHL does not have the space to house the ETL. Further, none of the four departments involved – ACWM, DPH, DPW, and ISD – believe that they require the operational capability for environmental toxicology laboratory services within their respective departments.

The consultant noted that the ETL does testing of storm and ground waters, soil, plants, food, and pesticides; but that the majority of its work is performed on drinking water. There are no mandates that require the County to provide these and the other services offered by the ETL and private sector laboratories are able to provide the same services. Although the ETL has the capability to perform more than 300 types of tests, the vast majority of these tests are performed infrequently and 16 of the tests account for more than 50% of the ETL's revenue.

The consultant considered various placement scenarios for the ETL and rated each using the same criteria, including: keeping the ETL at the ACWM; transferring the ETL to DPH; transferring the ETL to DPW (DPW's testing requests constitute some 90% of the ETL's work); transferring the ETL to ISD (ISD currently maintains a small water testing laboratory); or outsourcing most or all of the ETL's services to a private laboratory.

Recommendations

Option 1

The consultant's review of revenue and expenditures over the past four years determined that the annual net County cost (NCC) to operate the ETL is approximately $2 million, including County overhead costs. The consultant concluded that, if your Board considers cost to the taxpayers as the sole determining factor, then outsourcing the services currently provided by the ETL would be the most optimal solution to address the continued deficit and the quickest way to minimize costs. Outsourcing the services currently provided by the ETL would require ETL staff mitigation.

Option 2

Should your Board decide that the County needs to have the operational capability for environmental toxicology laboratory services, then the ETL is better aligned with DPH or DPW than with ACWM. DPH has divisions which are relevant to the ETL including Communicable Disease Control and Prevention (CDCP) and the Environmental Health (EH). The CDCP operates the PHL. EH has a Bureau of Environmental Protection and a Bureau of Toxicology and Environmental Assessment, both of which have requirements for tests which the ETL could satisfy.

Alternatively, a significant portion of DPW's workload concerns water-related issues. As a department, DPW has five divisions that focus on water: Waterworks, Flood Maintenance, Water Resources, Watershed Management, and Disaster Services Groups. DPW-requested water tests make up 90% of the tests that the ETL performs overall. DPW does not have its own water testing laboratory.

If the ETL is transferred to DPH or DPW (or even retained in ACWM), some of the issues identified by the consultant that would need to be addressed include: recruitment of an ETL Lab Director; continuing provision of $2 million in NCC to operate the ETL; provision of $1.5 million to refurbish the ETL at its existing location (or funding to construct a new lab facility for the ETL); strongly encouraging that County departments utilize ETL for their toxicology testing (including ISD for their water testing and DPW for both their water as well as soil sample testing); and review and revise the ETL's testing portfolio and fee rates.

If you have any questions or would like additional information, please contact either of us.

Attachment

JEF:mq
PH:1112:007

c: Chief Executive Officer
County Counsel
Executive Officer, Board of Supervisors

Final Report
ETL Placement

CGR MANAGEMENT CONSULTANTS

Dr. Keith Kennedy
1901 Avenue of the Stars, Suite 1900
Los Angeles, CA 90067
Tel: (877) 247-4652
Fax:(877) 247-4656
jkkennedy@cgrmc.com

January 2013

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EXECUTIVE SUMMARY

This document reports on a study for the Los Angeles County (LAC) Department of Public Health (DPH) regarding the placement of the Department of Agricultural Commissioner / Weights and Measures' (ACWM) Environmental Toxicology Laboratory (ETL) within the LAC organizational structure. The need for the study arose on December 6, 2011, when the County Board of Supervisors directed the Chief Executive Officer (CEO) to report on the feasibility of moving the ETL from the ACWM to the DPH. DPH requested that, within 30 days, the study provide a recommendation and a comprehensive analysis of key issues.

Methodology

In conjunction with the Project Steering Committee, comprising directors and senior staff from ACWM and DPH, we have evaluated and analyzed the ETL's key issues, such as operational structure and processes, staffing, space needs and availability, certification requirements, budget, workload and facility upgrade/repair needs, and have prepared recommendations regarding the ETL's placement within the LAC organizational structure, as specified in the work order.

To conduct the study we met with 40 directors and staff at the ACWM including the ETL, DPH including the Public Health Laboratory (PHL), Department of Public Works (DPW), Internal Services Department (ISD) and other interested parties. We also conducted a brief survey of laboratories in other counties.

We considered alternative placements for the ETL, including transferring the ETL to another LAC Department, such as the DPW which provides 90% of ETL's work, and transferring the ETL to the DPH without merging it with the PHL. As the study progressed, it was agreed with the Steering Committee that, in addition to the placement of the ETL inside the LAC organizational structure, outsourcing ETL's services should be compared to the other alternatives. In total, six alternative placements were evaluated against eight criteria.

Findings

Clients give ETL's services a high satisfaction rating. ETL's 18 staff perform nearly 45,000 matrices using 340 different tests in a year. Most are inorganic chemical tests, but 27% of the matrices and 10% of the tests are microbiological. Many of the microbiological tests overlap with tests done by the PHL. The tests are not mandated as a County activity.

The ETL's Net County Cost over the last four years has varied between $1.23 and $1.35 million per year, excluding ACWM and County overheads. However, we estimate that this cost could be reduced by more proactive direction of the ETL.

Conclusions

The best placement of the ETL within the LAC organization structure is to transfer the ETL, as a unit, to the DPH. However, in our analysis, transferring the ETL to the DPH rated equally with outsourcing ETL's services. If the Board considers cost to the taxpayers as the sole determining factor, then outsourcing the work of the ETL is the higher rated option and the quickest way to minimize costs.

In practice, outsourcing would mean asking ETL's clients to send their microbiology work to the PHL and to contract with laboratories outside the County for their other testing work. Microbiology testing represents about 27% of the 45,000 matrices that ETL performs each year and would more than triple the work of the small, water testing laboratory at the PHL. We recognize that on April 17, 2012, a work group, comprising staff from ACWM, DPH and the CEO's office, submitted a report to the Board that considered merging the ETL into the DPH's PHL. The group found that, due to differences between the ETL and the PHL, the ability to integrate staffs to improve quality and gain efficiencies is limited. Furthermore, it was reported that the PHL does not currently have the space to house the ETL. We agree that the ETL should not be merged as a unit with the PHL but we are confident that the microbiology testing could be transferred beneficially to the PHL and that laboratory space could be provided.

In regard to the effect of outsourcing on ETL staff, except for those that may be transferred to the PHL, it would displace staff from their jobs at the ETL and would require mitigation to other positions within the County. We have not done a comprehensive study on the impact to the County of closing the ETL.

Recommendations

We recommend that the Board decide whether, as a matter of policy, the County should have the operational capability to conduct environmental toxicology laboratory services, or should outsource the services. None of the four Departments involved – ACWM, DPH, DPW, ISD – believe that they require the operational capability within their respective departments.

If the County should provide the services, we recommend the ETL be transferred to the DPH. Initially, the ETL should be placed in the Communicable Disease Control and Prevention Division, because it also has the PHL, there is a need for rationalization of testing between the two laboratories, and it could more rapidly start taking the actions we have identified to improve the efficiency of the ETL and reduce its Net County Cost. Longer term, the ETL may find an appropriate place and be better aligned with the work in the Environmental Health Division within DPH.

1. INTRODUCTION

As a result of a response to Request for Services (RFS) No. 2012-295-1 issued by the Los Angeles County Department of Public Health, CGR Management Consultants LLC was authorized to make recommendations regarding the placement of the Department of Agricultural Commissioner / Weights and Measures' (ACWM) Environmental Toxicology Laboratory (ETL) within the Los Angeles County (LAC) organizational structure. LAC is considering the feasibility of moving the ETL from ACWM to the Department of Public Health's (DPH) Laboratory (PHL).

Furthermore, the RFS called for a "comprehensive analysis of key issues such as operational structure and processes, staffing, space needs and availability, certification requirements, budget, workload, and facility upgrades".

Note that, in discussions during the project, it was clarified that placement of the ETL outside of the LAC organizational structure should also be considered.

1.1 History

The topic of moving the ETL from its current placement in the ACWM rose to prominence on December 6, 2011 when the Board of Supervisors directed the Chief Executive Officer (CEO) to report back within a month on the feasibility of moving the ETL from the ACWM to the DPH. On December 28, 2011, the CEO provided a status report to the Board and indicated that DPH would provide the final report.

A work group comprising staff from ACWM, DPH and CEO met several times and on April 17, 2012, the DPH provided a report to the Board. The report stated that there are two possibilities:

1. Remain status quo and keep both labs (ETL and PHL) as they are currently functioning.

2. Transfer the ETL to DPH.

The report recommended an independent consulting firm be appointed to review the issue and provide recommendations.

1.2 Structure of This Report

Following this introduction, this report sets out:

Methodology: This section describes the methodology used to assess the ETL's current situation, develop a recommendation for the placement of the ETL and prepare plans for initial actions.

Alternative Placements: This section identifies four potential, alternative solutions for the organizational location of the laboratory and five alternatives for the physical location of the ETL.

Criteria for Selection: This section describes the eight criteria to be used in assessing and comparing the alternatives.

Assessment of the Alternatives: This section assesses each of the alternatives against the criteria.

Comparison of Alternatives: This section compares the alternatives.

Recommendations: This section contains the recommendation of the best alternative.

Action Plan: This section sets out the initial actions to be taken to implement the recommendations.

In this document, the meanings of frequently used terms are as follows:

"**Test**" is equivalent to "method" and refers to a procedure that can be used on more than one type of sample with only slight differences in procedure.

"**Matrix**" is a test performed on one type of sample.

For example, FE-200.8, a single test or method, performed on drinking water and on storm water is two matrices.

"**Drinking water**" is typically water from wells. The Los Angeles County Waterworks Districts, that require about 95% of the drinking water matrices that the ETL performs, serve more than 200,000 people.

"**Water**" is usually storm or ground water, but can be any water sample that is not otherwise identified.

"**Waste Water**" is water from an industrial plant, usually a water treatment plant.

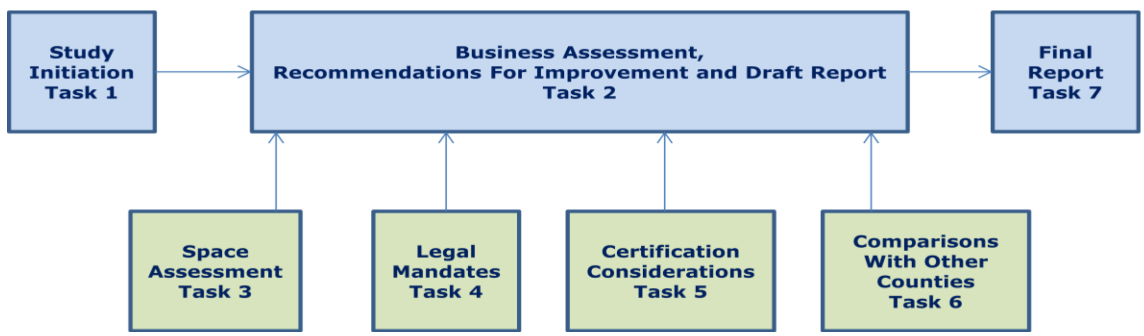
2. METHODOLOGY

The work was organized into seven tasks. The tasks were:

Task 1. Study Initiation.
Task 2. Business Assessment, Recommendations for Placement and Draft Report.
Task 3. Space Assessment.
Task 4. Legal Mandates.
Task 5. Certification Considerations.
Task 6. Comparisons to Other Counties.
Task 7. Final Report.

Tasks 2 to 6 were done in parallel, as shown in Figure 2.1 and described below.

Figure 2.1 – Organization of Tasks



Initially we evaluated the processes and facilities at the ETL and the PHL. This included an examination of the current provider service model and an assessment of the support processes provided by the ACWM and the DPH.

Once we recognized that there is little synergy between the ETL and the PHL outside the area of microbiological services, we extended our assessment to alternative placements. We reviewed the testing services available from private laboratories and the possibility of placing the ETL in the Department of Public Works or the Internal Services Department. We also compared these possibilities with outsourcing the work of the ETL, but did not do a comprehensive study of the impact on the County of closing the ETL.

We prepared a survey and contacted 12 other county laboratories in California to determine the services they offered and the placement of their laboratories. Nine responded. Then we reviewed whether the current product (water) – centric organization should be replaced with a functional (chemistry / microbiology) or client-centric organization. Finally, we prepared our recommendations and concluded the study by presenting the facts and the reasoning behind our recommendations to the Project Steering Committee. A list of the 40 people interviewed is attached as Appendix I.

3. ALTERNATIVE PLACEMENTS

We identified the following alternatives for both the organizational placement and the location of the ETL. These alternatives were agreed by the project Steering Committee at a meeting on November 26, 2012:

1. Retain the ETL in the ACWM

The ACWM may decide to:

i. Maintain the status quo
ii. Maintain the current placement of the ETL within the ACWM but revitalize the direction of the ETL
iii. Transfer the ETL to another ACWM bureau
iv. Negotiate a redefinition of the roles of ETL and PHL and the transfer of some of PHL's work to ETL.

2. Transfer the ETL to the DPH

The DPH may decide to:

i. Merge the ETL with the PHL
ii. Restructure the PHL/ETL and possibly outsource some of the ETL's work
iii. Place the ETL in a division of the DPH unrelated to the PHL.

3. Transfer the ETL to another Department within Los Angeles County

The Department of Public Works, ETL's largest customer, was the obvious choice, but the Internal Services Department, which also does some testing of water, was also considered.

The DPW may decide to:

i. Continue the ETL's services to all clients
ii. Use the ETL only for testing that DPW requires.

4. Outsource most or all of the work of the ETL

These alternatives were combined with the following locations alternatives:

a. Leave the ETL as it is
b. Refurbish the current facilities
c. Relocate to the PHL
d. Relocate to near the PHL
e. Relocate to a building in a different area.

4. CRITERIA FOR SELECTION

The alternatives were evaluated against the following criteria, which are considered to be critical to the successful placement of the ETL.

1. Logical Affinity

The organization in which the ETL is placed should have some logical affinity to the ETL. That is to say it should have some affinity to water and testing water. Typically the affinity would be functional, product-centric or customer-centric.

2. Services Offered

Services provided by the ETL and the convenience for clients should be maintained or improved by ETL's organizational relationship. Note that we did not make an exhaustive study of clients' requirements during the study.

3. Financial Viability

A placement that controls the net County cost (NCC) is important to the ongoing operation of the ETL.

4. Space Considerations

The ETL needs space and a location that will enable it to operate and to be managed.

5. Staff Attitudes

Staff approval or disagreement with the organizational placement of the ETL will make a difference, especially in any transition period.

6. Support Services

The ETL needs support services such as finance and accounting, information technology, human resources, facilities maintenance and business development.

7. Placement of Other County Laboratories

The placement of laboratories that provide similar services in other counties will give insights into their reasonings.

8. Time and Difficulty of Implementing Change

The time and difficulty of making any transfer of the ETL will impact both the finances and the services of the laboratory.

5. ASSESSMENT OF THE ALTERNATIVES

The four organizational alternatives identified in Section 3 above are assessed below.

5.1 Retain the ETL in the ACWM

1. Logical Affinity

To assess the logical affinity of the ETL with the ACWM we examined the history of the ETL and the ACWM's affinity to water

Our findings are set out below.

i. History

The ETL was established in 1973 in the Department of Health Services and moved to the ACWM in 1982. The primary justification for placement in ACWM appears to have been, at the time, a more sizeable workload for ACWM in the testing for pesticides and pesticide residues on produce. Since then, these issues have subsided and the ACWM no longer needs the laboratory for those purposes. However, the ETL has remained within the ACWM.

ii. Affinity to Water

The ACWM's ultimate mission is to protect the health and safety of the County's residents and improve the quality of the environment through the enforcement of Federal, State and local laws and regulations.

Within this broad mission, the ACWM is focused, in accordance with State and local requirements, on consumer and environmental protection providing leadership and direction in the successful eradication of serious pests, protecting the consumer from packaging, pricing and transaction fraud and from rising food prices due to increased pest control costs and decreased agricultural yields, the environment from increased pesticide application and the agricultural industry from increased costs for pest control. In particular, the ACWM engages in pest detection, pest eradication, pest management control, pest exclusion, seed inspection, nursery inspection, fruit and vegetable quality control, egg quality control, apiary inspection, crop statistics and phyto-sanitary certification.

The ACWM has done some studies on contaminants in water, but it is not an enforcement agency in regard to water quality standards, nor does it have regulatory authorities to mandate water quality or purity mitigations. The ETL does testing of storm and ground waters, soil, plants, food and pesticides but the majority of its work is on drinking water.

iii. Logical Affinity Conclusions

There is no doubt that water for irrigation has an affinity to agriculture and to the ACWM's overall mission. Thus, on this criterion alone, the ACWM may be a suitable organizational location for the ETL.

2. Services Offered

The services that the ETL provides include tests for:

- Title 22 domestic water compliance
    - General Minerals (e.g. total hardness, calcium, nitrate, fluoride)
    - General Physical (e.g. pH, color, odor, turbidity, etc.)
    - Inorganics (e.g. aluminum, arsenic, chromium, copper, lead, mercury, etc.)
    - Bacteria (e.g. total and fecal coliform)
    - Trihalomethone (EPA Method 524.2)
    - Volatile Organics (EPA Method 524.2)
    - Regulated Organic Chemicals (e.g. EPA Methods 504, 505, 507, 515.1, 531.1, 547)
    - Unregulated Organic Chemicals (e.g. EPA Methods 524.2, 505, 507, 531.1)
- NPDES permit compliance (e.g. pH, coliform, chloride, nitrate, etc.)
- Hazardous materials evaluation
- Lead
- Pesticide residue testing.

The Environmental Toxicology Bureau is accredited by the California State Department of Public Health to test drinking water, waste water, hazardous waste, and agricultural products. The Laboratory is also accredited for lead analysis in dust wipe, soil, and paint chip by American Industrial Hygiene Association. It is one of the very few laboratories in California that is certified to test for pesticides, using the California Department of Food and Agriculture (CFA) 691 method.

To help in assessing the services offered by the ETL, the staff at the ETL provided us with:

- A list of the pricing methods and the number of matrices performed for each method each year for the four years 2006/7 to 2008/9 and 2010/11. The year 2009-10 was excluded because of potential inaccuracies due to implementation of the Laboratory Information Management System (LIMS).
- The number of each matrix performed each month from November 1, 2011, to October 31, 2012, taken from a LIMS report
- The number of each matrix performed for each client from November 1, 2011, to October 31, 2012, taken from a LIMS report.

We thus have several different numbers for the volume of matrices performed in a year. We mainly used the volumes based on the:

- average number of tests performed per year over the four years 2006/7 to 2008/9 and 2010/11
- number of matrices performed from November 1, 2011, to October 31, 2012

This raw data is set out in Appendix II.

We analyzed the raw data, using the most appropriate volume figures, to calculate the:

- number of matrices that the ETL performs
- number of different matrices performed
- number of matrices by science, i.e. inorganic, organic, microbiological, biological
- number of matrices performed by type of sample, e.g. drinking water, water, food, plant, paint, etc.
- number of matrices performed by type of sample by month
- number of matrices by client
- services offered by selected other laboratories

The details of the analyses are shown in Appendix III and are summarized below. Please note that there are minor differences in the number of matrices performed (e.g. 44,696 and 44,698) due to figures being taken from different reports. For the purposes of this report the differences are insignificant.

i. Number of Matrices that the ETL Performs

Figures supplied to us show that the total number of tests carried out by the ETL has been:

Figure 5.1 – Total Number of Tests Carried Out Annually by ETL

Year	Total Number of Tests
2006-7	44,952
2007-8	45,825
2008-9	36,663
2010-11	38,777

While the figures above indicate that the total number of tests may be decreasing, our calculation of the total number of tests derived from LIMS data for November 1, 2011, to October 31, 2012, shows that 44,696 matrices were performed.

Furthermore, ETL's revenue, including intra-fund transfers, indicates up to a 20% variation between adjacent years but no trend in any direction, as shown in the table below.

Figure 5.2 – ETL's Annual Revenue

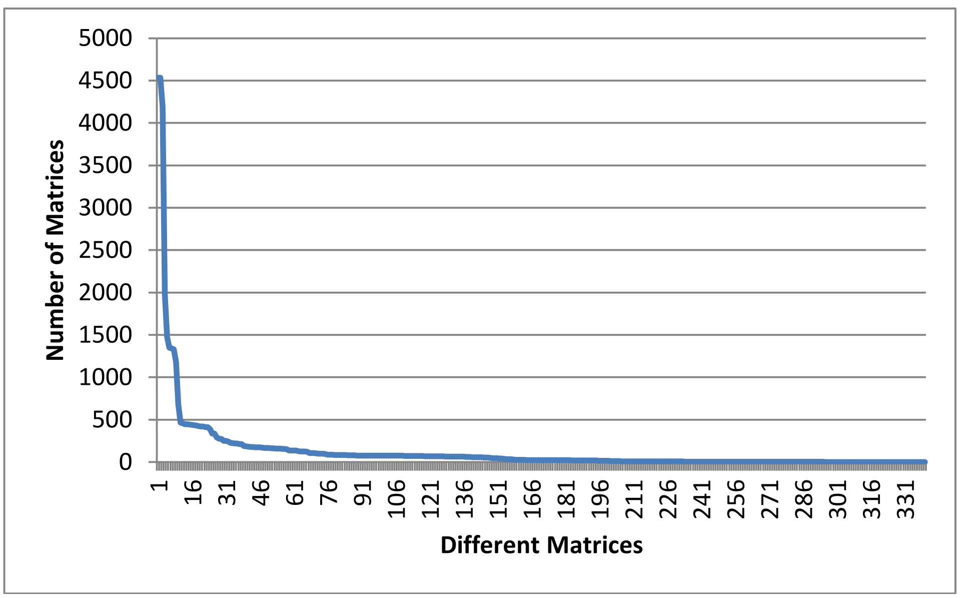
REVENUE	2011-12	2010-11	2009-10	2008-09
Intrafund Transfers				
Public Health	$35,538	$37,000	$42,000	$62,000
Coroner	$0	$0	$0	$0
Various	$351	$0	$0	$5,000
Revenue				
Public Works	$918,035	$838,000	$1,017,000	$879,000
Others	$7,089	$10,000	$10,000	$4,000
Fire Department	$49,190	$30,000	$30,000	$0
Total Revenues	**$1,010,203**	**$915,000**	**$1,099,000**	**$950,000**

From these figures it seems that the services offered, in total, are currently stable.

ii. Number of Different Matrices Performed

Analysis of LIMS data for the year November 1, 2011, to October 31, 2012, shows that 340 different matrices were performed. See the chart below. 36 of the matrices are sent out and performed by other laboratories.

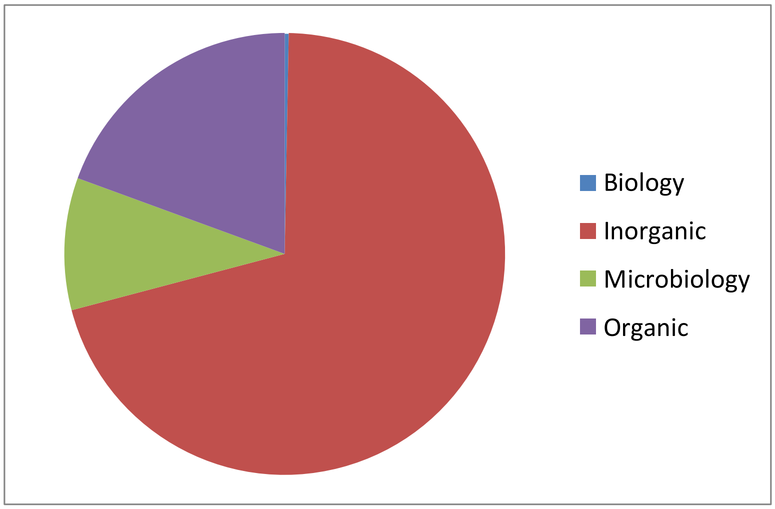
Figure 5.3 – Number of Different Matrices Performed During a Year



iii. Number of Matrices by Science

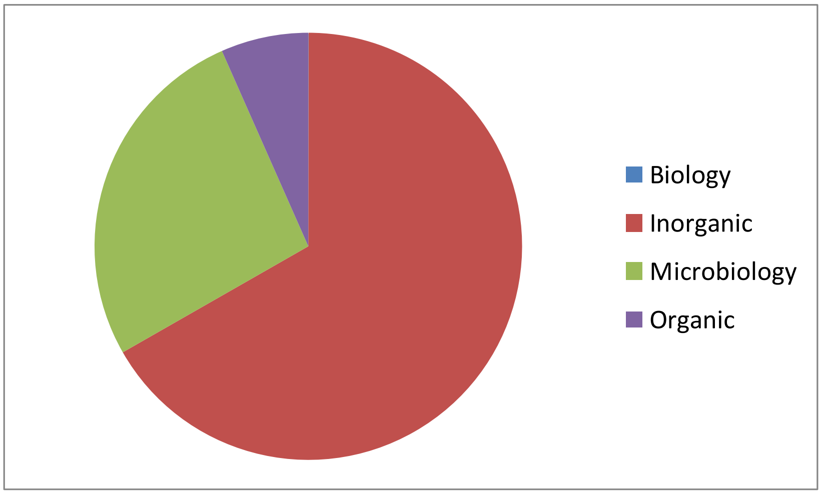
Dividing the number of different tests into, inorganic, organic, microbiology and biology based on the figures derived from LIMS data for November 1, 2011, to October 31, 2012, produced the following result:

Figure 5.4 – Different Tests by Science for Nov 1, 2011 to Oct 31, 2012



Dividing the number of matrices performed in the same manner shows:

Figure 5.5 – Number of Matrices Performed by Science



Figures are shown in Appendix III.

iv. Number of Matrices Performed by Type of Sample

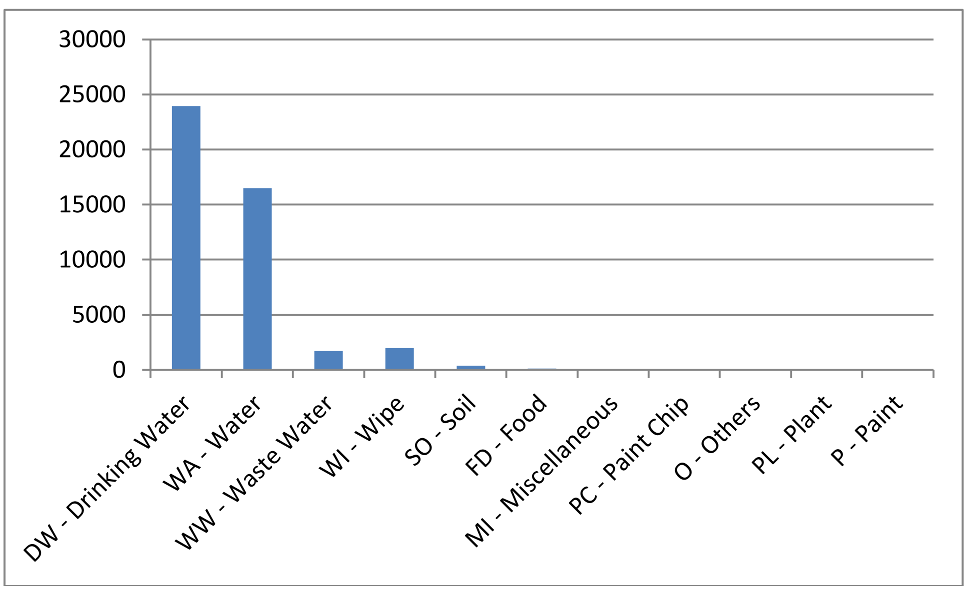
The number of matrices performed, according to LIMS data for the year November 1, 2011, to October 31, 2012, was as follows:

Figure 5.6 – Matrices Performed by Type of Sample

Type of Matrix	Number of Matrices	% of Total Matrices
Drinking Water	23,958	53.6%
Water (e.g. Storm)	16,475	36.9%
Waste Water	1,722	3.9%
Wipes	1,986	4.4%
Soil	375	0.84%
Food	103	0.23%
Miscellaneous	41	0.09%
Paint Chip	15	0.03%
Others	14	0.03%
Plant	4	0.01%
Paint	3	0.01%
Total	**44,696**	**100.0%**

Shown graphically the figures are:

Figure 5.7 – Matrices Performed by Type of Sample



Two tests on drinking water, for fecal coliform and total coliform, were performed 4,535 each during the year. A test for lead on wipes was done 1,981 times in the year.

v. Number of Matrices Performed by Type of Sample by Month

Further analysis of the LIMS data for the year November 1, 2011, to October 31, 2012, for the high volume matrices performed by type of sample and by month, see Appendix III and the table below, shows that the number of drinking water matrices performed each month is the most stable, varying from a low of 1,601 to a high of 2,386 per month, a variance of 49.0%. The most variable by month is storm water, which varies from a low per month of 186, in September 2012, to a high of 2,943 per month in November 2011, a 1,482% change.

Figure 5.8 – Number of Tests Performed each Month

	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12
DW - Drinking Water	1,812	1,601	2,196	2,026	1,772	2,101	2,004	1,958	2,386	2,158	1,844	2,099	23,957
FD - Food	3	1	9	7	1	4	1	35	5	4	30	3	103
MI - Miscellaneous	0	0	7	14	0	0	0	6	1	0	10	3	41
O - Others	1	0	0	0	0	0	11	0	2	0	0	0	14
P - Paint	0	0	0	0	0	0	0	0	3	0	0	0	3
PC - Paint Chip	1	2	0	1	0	0	4	2	1	0	1	3	15
PL - Plant	0	0	0	0	4	0	0	0	0	0	0	0	4
SO - Soil	39	12	12	28	18	9	19	119	16	36	31	36	375
WA - Water (Storm)	2,943	803	2,784	963	1,747	1,840	575	911	1,110	456	186	2,160	16,478
WI - Wipe	164	205	110	154	164	195	86	149	160	218	174	207	1,986
WW - Waste Water	158	69	212	95	148	69	292	137	112	214	84	132	1,722
TOTALS	5,121	2,693	5,330	3,288	3,854	4,218	2,992	3,317	3,796	3,086	2,360	4,643	44,698

vi. Number of Matrices By Client

Tests were performed for 15 different clients during the year from November 1, 2011 to October 31, 2012, as shown in the table below. The table and histogram show the number of matrices performed and the number of different matrices performed for each of the 15 clients.

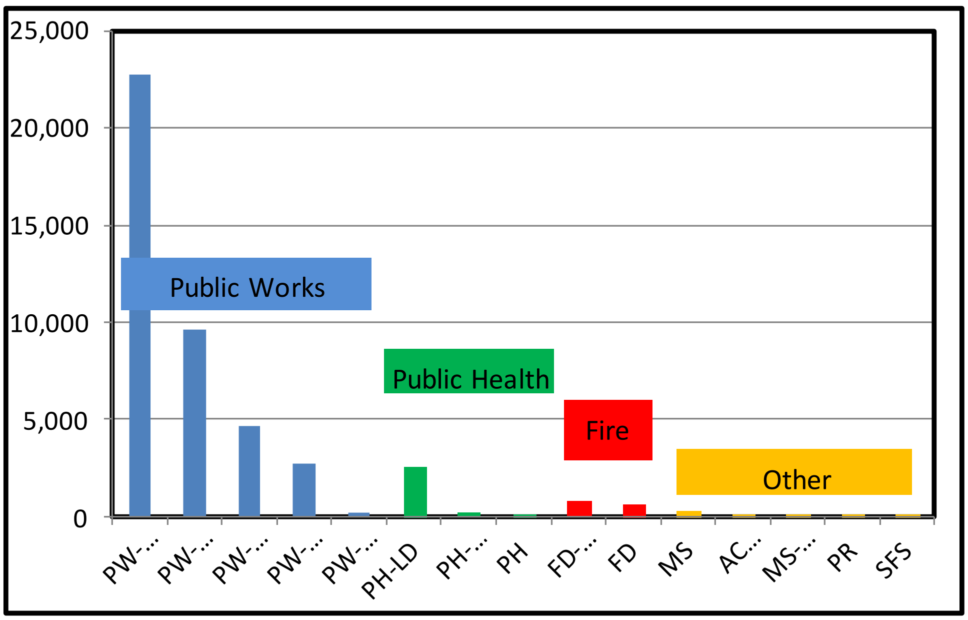
Figure 5.9 – Number of Matrices by Client

Client		Number of Matrices	Number of Different Matrices
PW-WW	Public Works Waterworks	22,752	97
PW-WM	Public Works Watershed Management	9,606	91
PW-WR	Public Works Water Resources	4,670	103
PW-SM	Public Works Sewer Maintenance	2,713	82
PW-FM	Public Works Flood Maintenance	197	9
PH-LD	Public Health - Lead	2,592	11
PH-SW	Public Health – Small Water	180	35
PH	Public Health	106	21

FD-CM	Fire Department - Construction	779	104
FD	Fire Department	665	24
MS	Miscellaneous/Private Citizen	266	65
ACWM	Agricultural Commission, Weights & measures	100	32
MS-MCC	Malibu Country Club	52	18
PR	Parks and Recreation	15	6
SFS	Santa Fe Springs	3	3
	Total	**44,696**	

Graphical representation of the figures makes it easy to see that the Department of Public Works is the major client.

Figure 5.10 – Number of Matrices by Client



The five Department of Public Works (DPW) clients account for 89.4%, 39,938, of the 44,696 matrices performed. Public Health accounts for 6.44%.

vii. Number of Matrices by Client by Type of Sample

Analyzing further the number of matrices performed for each client to show what types of tests were performed produced the figures shown in Figure 5.11 on the following page.

Figure 5.11 – Number of Matrices Performed by Type of Sample by Client

	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS	Total Anals
DW - Drinking Water	22628	0	0	0	7	218	129	0	10	658	234	69	0	2	3	23958
FD - Food	0	0	0	0	0	82	0	1	0	0	0	20	0	0	0	103
MI - Miscellaneous	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0	41
O - Others	0	0	0	0	0	8	0	0	0	0	0	1	0	5	0	14
P - Paint	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
PC - Paint Chip	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	15
PL - Plant	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4
SO - Soil	0	0	72	58	0	244	0	0	0	0	0	1	0	0	0	375
WA - Water	124	9606	4598	1043	190	0	51	105	659	7	32	0	52	8	0	16475
WI - Wipe	0	0	0	0	0	1981	0	0	0	0	0	5	0	0	0	1986
WW - Waste Water	0	0	0	1612	0	0	0	0	110	0	0	0	0	0	0	1722
TOTALS	**22752**	**9606**	**4670**	**2713**	**197**	**2592**	**180**	**106**	**779**	**665**	**266**	**100**	**52**	**15**	**3**	**44696**

Clients are:

PW-WW	DPW Waterworks
PW-WM	DPW Watershed Management
PW--WR	DPW Water Resources
PW-SM	DPW Sewer Maintenance
PW-FM	DPW Flood Maintenance
PH-LD	Public Health - Lead
PH-SW	Public Health - Small Water
PH	Public Health
FD-CM	Fire Department - Construction
FD	Fire Department
MS	Miscellaneous / Private Citizen
ACWM	Agricultural Commission, Weights & Measures
MS-MCC	Miscellaneous / Malibu Country Club
PR	Parks and Recreation
SFS	Santa Fe Springs

It can be seen that 94.4%, 22,628, of the 23,958 matrices for drinking water are performed for the Department of Public Works – Waterworks. 94.5%, 15,561, of the 16,475 water matrices and 93.6%, 1,612, of the 1,722 waste water matrices are performed for the DPW. Practically all of the tests for lead on wipes are performed for the Department of Public Health.

viii. Services Offered Conclusions

The figures presented above show that the volume of tests done by the ETL is relatively constant, though it is affected by the weather and, in particular, by the extent of storms in Southern California. 26.7% of the tests are microbiological. Tests on drinking water comprise more than half of the tests performed and tests on storm water are more than another third.

The ETL has staff and equipment for a wide range of water testing methods and 340 different matrices are offered by the ETL. The ETL is proud that it provides a one-stop shop for its clients.

90% of the matrices are performed for the Department of Public Works. Hence, the ETL could be severely impacted by any change in the DPWs plans for toxicology laboratory services. The DPW already uses other laboratories, and the RFP it issued in 2012 with awards of major service contracts to three private laboratories is an indicator that the DPW will continue to do so.

The PHL offers some of the same services as ETL and there is also a laboratory in the ISD that offers a limited number of the same services. It was not within our terms of reference to make a recommendation on the testing of water in the County as a whole, but it seems logical to deduce that it is wasteful for the County to spend money on equipment and staff for another laboratory to do the same tests when higher volumes of tests in the ETL would increase its efficiency.

3. Financial Viability

To assess the financial viability of the ETL, we used the raw data listed in Section 2 above and added:

- Annual budget and actual Net County Cost (NCC), including expenditure and revenue
- Current and drafted new Group III fee rates.

We reviewed the:

- Budget and Actual NCC
- Budget and Actual Expenditure
- Budget and Actual Revenue
- Fee Rates
- Fee Earning Capacity of the ETL.

Our findings are set out below.

i. Budget and Actual Net County Cost

Net County Cost:

There are two NCC's that are of interest to this project:

a. The NCC if the ETL was transferred to a different Los Angeles County Department. This NCC includes full, allocated overheads, including those of the ETL, the ACWM and the County.

b. The NCC if the work of the ETL was outsourced. The cost of the ETL above the cost of outsourcing is of particular interest.

NCC for Transfer

According to figures supplied to us, see Appendix II, the Net County Cost of the ETL is as shown in the table below:

Figure 5.12 – Actual Net County Cost of the ETL by Year

Year	Revenue	Net Expenditure	Net County Cost
2008-9	$950,000	$2,300,000	$1,350,000
2009-10	$1,099,000	$2,330,000	$1,231,000
2010-11	$915,934	$2,202,509	$1,286,575
2011-12	$1,010,203	$2,322,817	$1,312,614
Total	**$3,975,137**	**$9,155,326**	**$5,180,189**

Revenue includes intra-fund transfers, which is revenue from County General Funded departments. The intra-fund transfers have varied between $35,889 in 2011-12 and $67,000 in 2008-9.

These figures do not include the full allocation of overheads for Administration and the County. If the full allocation of overheads is applied, the 2010-11 expenditure rises from $2,202,509 to $2,977,798, and from $2,322,817 to $2,982,525 in 2011-12, without increases in revenue. Hence the Net County Cost for the ETL for 2010-11 becomes $2,061,864, and for 2011-12 becomes $1,972,322.

Thus, about $2 million per year is the NCC that needs to be considered in any transfer of the ETL to another Los Angeles County Department. However, discussions with the County's Chief Executive Office indicated that any transfer of the ETL to another Department may be made financially neutral, with the ACWM carrying the NCC for an indefinite period.

Net County Cost with Outsourcing

To calculate the NCC if ETL's services were replaced with those of private laboratories, we first calculated the ETL's revenue from testing services and then the cost if outside laboratories provided those services.

We have been provided with the main current fee rates, called Group III rates, the number of tests performed in four of the years from 2006-07 to 2010-11, and the actual revenue figures in the accounts for the years 2008-09 to 2011-12. The actual revenue figures, including intra-fund transfers, are compared below to the revenue calculated from current fee rates and the number of tests.

Figure 5.13 – Calculated Revenue and Actual Revenue

	2008-09	2010-11
Calculated Totals	$668,159.45	$715,132.86
Actual Revenue	$950,000.00	$915,000.00

It can be seen that the actual revenue in the annual accounts is 42.2% and 27.9% greater than the calculated revenue. Though there are no supporting figures available, we are assured that the reasons for the differences are:

1. The tests were billed based on the client's group rates whereas the calculated total above is based on Group III. There are four group rates in total currently. Group I is for DPH and ISD. Group II is for the State. Group III is for other county agencies. Group IV is for the city agencies.

2. Some tests were Rush, and they were charged 28% more.

3. By agreement with the clients, the field sample collections were charged for mileage and sampling time.

4. Some consulting services were charged by agreement, for example, permit reporting writing and field equipment calibration.

5. Some laboratory supplies/materials were ordered for the clients for their field work.

6. The sent-out tests were also billed mileage and handling fees.

If we use the volume of matrices performed in the ETL, excluding those sent out, from November 1, 2011 through October 31, 2012, and calculate the total fees for both the ETL and outsourcing, add the average of 42.2% and 27.9%, which is 35%, for the six reasons listed above, we obtain the results shown in the table below. Details for each test are shown in Appendix III. The fee rates for outside services are those provided to us, based on a survey of six laboratories over the period 2010 to early 2012.

Figure 5.14 – Estimate of Outsourcing Cost

	ETL Gp. III Rate Revenue	Minimum Outsource Rate Fees	Average Outsource Rate Fees	Maximum Outsource Rate Fees	ETL Planned New Rate Revenue
Total Fees	$839,901.49	$870,666.24	$1,154,233.87	$1,565,227.24	$1,295,101.05
35% for Other Services	$293,965.52	$304,733.18	$403,981.86	$547,829.53	$453,285.37
Total Fees	$1,133,867.01	$1,175,399.42	$1,558,215.73	$2,113,056.77	$1,748,386.42

It can be seen that the cost of outsourcing the tests would be between $1,175,399 and $2,113,057, but probably about $1,558,215. However, these figures may not be accurate. Differences in methods, numbers and arrival patterns of samples make accurate estimation of outsourcing extremely difficult within the timescale allowed for this study. For the purposes of this report, we shall take about $1,500,000, plus reduced County overheads, as the cost of outsourcing.

Net County Cost of the ETL above Outsourcing

With full overheads, the cost of the ETL in 2010-11 and 2011-12 was almost $3 million. Comparing this with the direct cost of $1.5 million for outsourced services would imply a saving of about $1.5 million. However, this would require the County to cut out about $700,000 in ACWM and County overheads.

The overheads associated with the ACWM and the County are unlikely to be significantly reduced wherever the ETL is placed, though the overheads may be allocated to another bureau or Department. Thus, it is more realistic to compare the cost of outsourcing with the ETL expenditure. Then, the extra cost to the County of having the services performed by ETL at about $2,250,000 rather than outside laboratories at about $1,500,000 is about $750,000.

Budget and Actual NCC:

Each year the ACWM prepares a budget for the ETL. The approved budget Net County Cost and the actual Net County Cost are shown in the table below:

Figure 5.15 – Net County Cost Budget and Actual Figures

Year	Budget	Actual	Difference	% Difference
2010-11	$851,000	$1,287,000	$436,000	51.2%
2011-12	$993,000	$1,188,479	$195,479	19.7%
Total		**$5,056,479**		

It can be seen that there is a significant difference between the budgeted NCC and the actual NCC, excluding full overheads.

ii. Budget and Actual Expenditure

The budget and actual expenditure for the past two years are shown below:

Figure 5.16 –Budget and Actual Expenditure Figures

Year	Budget	Actual	Difference	% Difference
2010-11	$2,401,000	$2,165,000	$236,000	9.8%
2011-12	$2,453,000	$2,162,793	$290,207	11.8%

The actual expenditure is less than the budgeted expenditure by about 10% each year. We believe that this is in large part due to budgeting for 23 positions when only 18 are filled. The staffed positions are listed in Appendix IX.

iii. Budget and Actual Revenue

The budget and actual revenue, including intra-fund transfers, for the past two years are shown in the Table below:

Figure 5.17 – Budget and Actual Revenue Figures

Year	Budget	Actual	Difference	% Difference
2010-11	$1,651,000	$915,000	$736,000	44.6%
2011-12	$1,561,000	$1,010,203	$550,797	35.3%

Not only are there significant differences between the budget and actual figures, but the budgeting process does not place sufficient accountability for the results of the ETL with the staff at the ETL.

iv. Fee Rates

ETL's fee rates have not been changed in 10 years. The April 17, 2012, report to the Board mentioned that rates being charged for a variety of tests are lower than industry standards and may not be reflective of actual costs for the testing processes. The report set out a number of reasons why reviews of charge rates were not completed. The report concluded that some increases are achievable that may serve to diminish the NCC associated with the operation of the ETL.

Basis for Draft New Fee Rates

The draft new fee rates are based on the cost of performing the services. The costs of services has been calculated by staff at the ETL, under instructions from the County, from the time it takes laboratory assistants, technologists, toxicology chemists, senior toxicology chemists and supervisors to perform a test and the equipment used. The costs of services and supplies supporting the tests are added. The calculated costs were compared to the average fee rates for the six outside laboratories for which fees were gathered during the period from 2010 to early 2012.

However, the time taken by staff and the time for which the equipment is used is highly dependent on the number of matrices performed at the same time. For the most part, the calculation of cost was done assuming that a batch of 10 was tested at the same time.

Based on the figures we obtained from the LIMS for the year from November 1, 2011, to October 31, 2012, see Figure 5.3 above and Appendix III, 33 of the matrices were performed only once during the year, including 27 of the 72 different waste water matrices

121 of the matrices were performed less than once a month on average, that is, less than 12 times during the year, including 34 of the 106 different drinking water matrices, 15 of the different 117 storm water matrices, and 51 of the 72 different waste water matrices.

176 of the 340 matrices were performed less than once a week on average, that is, less than 52 times during the year, including 74 of the 106 different drinking water matrices, 25 of the different 117 storm water matrices, and 52 of the 72 different waste water matrices.

Only 29 matrices are performed more than once a day on average.

It is therefore reasonable to deduce that the method of calculating the cost for most of the tests performed is inaccurate. For example, when a single test is performed, it usually costs far more than one-tenth of the cost of performing ten tests. Furthermore, the work of calculating costs by measuring the time taken to do tests, which vary in number day by day, is onerous. The senior staff at the ETL agree that the calculated costs on which the draft new fee rates are based are approximate.

Not only are the results of the process inaccurate but the new draft fee rates calculated do not cover the cost of the ETL. After calculating the costs, the rates have to be compared to those of competitive laboratories. As we would expect and as the clients that we have spoken to confirm, the clients are concerned that they are not paying the ETL more than they would pay other laboratories for the same services. Thus ETL cannot charge calculated fee rates if they are not competitive. Furthermore, agreements in place with existing clients may limit the rate at which fees can be raised.

Elimination of Uneconomic Services

As described immediately above and shown in Figure 5.3, the vast majority of the tests performed are carried out infrequently. So infrequently, that they are likely to cost more than the revenue they generate, even with new fee rates.

Revenue with New Fee Rates

Using an average of the number of tests performed over the four of the years in the period 2006-7 to 2010-11, 16 Price Methods account for 31,678 matrices, and about half ($505,951) of the revenue in 2011-12 at current fee rates. At the draft new fee rates and the same volumes, these 16 methods would generate $759,439, a 50% increase in revenue, as shown in the table below.

Figure 5.18 – Top Revenue Earning Methods

	Test Price Group	Price Method	Average Tests Per Year	Current Gp. III Rate	Planned New Rate	Gp III Revenue	Planned New Rate Revenue
1	Colilert (Bacteria Presence/Absence)	SM 9223	5409	$15.43	$24.50	$83,460.87	$132,520.50
2	Chlorine, Residual	SM 4500Cl	5090	$14.09	$22.65	$71,718.10	$115,288.50
3	Metal-Each(Dissolve)	Metal	3885	$18.25	$25.79	$70,901.25	$100,194.15
4	Metal-Each(Total)	Metal	3590	$32.77	$27.04	$117,644.30	$97,073.60
5	Anion-Each (F, Cl, NO2, NO3, PO4, SO4)	EPA 300.0	2077	$14.23	$27.29	$29,555.71	$56,681.33
6	Lead AA Flame (Wipe)		1890	$10.00	$23.11	$18,900.00	$43,677.90
7	Turbidity	SM 2130B	1673	$7.54	$16.90	$12,614.42	$28,273.70
8	Odor	SM 2150B	1435	$7.54	$11.39	$10,819.90	$16,344.65
9	Color	SM 2120B	1430	$7.54	$11.39	$10,782.20	$16,287.70
10	pH	SM 4500 HB	1225	$4.64	$13.77	$5,684.00	$16,868.25
11	THM, GC/MS (EPA 524.2) + MTBE	EPA 524.2	807	$26.55	$49.97	$21,425.85	$40,325.79
12	Fecal Coliform (SM 9221)	SM 9221	759	$25.59	$35.10	$19,422.81	$26,640.90
13	Total Coliform (SM 9221)	SM 9221	718	$25.59	$43.76	$18,373.62	$31,419.68
14	Total Suspended Solids-TSS	SM 2540D	589	$9.64	$22.96	$5,677.96	$13,523.44
15	Total Dissolved Solids-TDS	SM 2540	569	$9.64	$21.46	$5,485.16	$12,210.74
16	Heterotrophic Plate Counts (HPC)	IDEXX SimPlate	532	$6.55	$22.76	$3,484.60	$12,108.32
		TOTALS	**31678**			**$505,950.75**	**$759,439.15**

Overall, at the same volume, the 85 pricing methods at draft new fee rates will generate a 46.1% increase in revenue from tests, excluding sampling fees, over the current Group III rates, as shown below and in Appendix III.

Figure 5.19 – Revenue at Current and Draft New Fee Rates

	Gp. III Rate Revenue	Draft New Rate Revenue
Revenue	$858,082.27	$1,253,478.81
% of Gp.III Revenue		146.1%

We applied the current and the draft new fee rates to the volume of analyses done by the ETL during the November 1, 2011, to October 31, 2012, year in order to calculate the total fee-based revenue that would have been generated, assuming no loss of business. The revenue changed as shown in the table below:

Figure 5.20 – Revenue at Current and Draft New Fee Rates

	Number of Matrices	Revenue at Current Fees	Revenue at Draft new Fees
Volume Average of 4 Years	41,652	$858,082	$1,253,478
Volume 11/1/2011 to 10/31/2012	44,033	$839,901	$1,295,101

Due to the composition of the tests performed, the revenue at current fee rates goes down by about $20,000, 2.1%, between the average of four of the years in the period 2006-7 to 2010-11and the year November 1, 2011, to October 31, 2012, even though 5.9%, 2,741, more tests were performed.

This also indicates that the current average fee for the tests performed reduced from $20.65 to $19.07, but that, at the draft new fee rates, the average fee for the tests performed reduced from $30.16 to $29.41, despite a 3.2% increase in revenue.

The new, higher revenue does not cover the costs of the ETL, even without the full allocation of overheads.

v. Fee Earning Capacity

In addition to the above "what-if" calculations on rates, we also considered the capacity of the ETL to handle a higher volume of tests and thus earn more revenue.

It can be seen from Figure 5.5 above, showing the number of tests performed by month during the year November 1, 2011, to October 31, 2012, that there are some months when the ETL handles a higher number of tests than in other months. Sometimes it is necessary for the staff to work overtime to accomplish the tests in the higher volume months.

It is difficult to assess what capacity the laboratory has for performing tests and earning revenue because the capacity is so dependent on which matrices are performed and the number done at any one time. The senior staff at the ETL estimate that more matrices could be done, particularly if the five vacant positions were filled and staff upgraded as vacancies occurred.

It is noticeable that there is little or no proactive business development done by the ETL to increase the revenue. All the staff are busy carrying out the current work of the ETL and nobody is in a position to engage in business development within or outside the County. Furthermore, the philosophy at the ETL is that it is not the purpose of a County laboratory to compete with private laboratories.

However, the ETL did respond to an RFP issued by the Department of Public Works (DPW) on March 26, 2012, for As-Needed Environmental Laboratory Services Program. The total aggregate annual contract amount of the Program was estimated at $2 million. The ETL submitted a document on April 23, 2012, in response to the RFP that, in the covering letter, stated, "Unfortunately, we are in the process of developing our new rates which has not updated since 2002. Our Department will not permit us to submit any official proposal until the process of rate update is complete. Since both our Departments fall within the County of Los Angeles, may I request to submit our proposal for considering us through a DSO setting?"

At that time the ETL Management team was reviewing and revising the rate time study as a priority since, as the ETL's April 2012 Monthly Report states, "the Lab is unable to bid for any County Department contracts due to the decade old rate."

According to the ETL's Monthly Report, in January 2012, the ETL did a confirmation study that month on the time study to ensure that everything is correct for the rate adjustments for services performed by the Lab. The corrections were returned to the Business division with explanations and sound justifications for further processing. The ETL was targeting to complete the lab test rate adjustments before the new fiscal year begins.

In February, 2012 the ETL Monthly Report stated that, "the new rate study has been submitted to Budget and Fiscal for final review before submission to the County Auditor-Controller."

In March 2012, the ETL was in the final reviewing stages of the rate study to make sure that all studies were correctly and accurately reflected in the new rate development.

In April, the response to DPW's RFP was submitted.

The May Monthly Report stated that the Environmental Toxicology Laboratory was able to review and finalize the accuracy of the time study with all of its analysts. The time study was sent to the ACWM Budget and Financial Services Division for further processing. The Lab hoped to have the rates completed by the fiscal year's end because the implementation of new rates may help the Lab compensate the gap within its budget.

In June, July and August 2012, the Monthly Reports did not mention the time study or fee rates.

On September 4, 2012, the Board of Supervisors approved awards of the DPW contract to three private laboratories.

As of the date of this report, January 2013, the new fee rates for the ETL have still not been approved. The simple reason for this is that the draft new fee rates do not cover the cost of the ETL.

It should be noted that, in response to the question, “Can you provide the actual annual spend for the current contracts under this program?” during the period between the issue of the RFP and the responses being required, the DPW answered, “The amounts spent for the last contracts are:

Initial Term	$306,247
Option Year 1	$141,641
Option Year 2	$262,912
Option Year 3 (in progress)	$95,030”

Furthermore, it is possible that the ETL could still obtain some of the business under the program through the Departmental Service Order (DSO) system. The RFP requests “as-needed environmental laboratory services” and it is probable that a DSO could step in front of as-needed requirements.

vi. Financial Viability Conclusions

The figures show that there is an imbalance between the expenditure on the ETL and its revenue. This imbalance may be necessary for the public good, but it needs to be recognized and approved by the County so that realistic budgets can be developed.

The Net County Cost could be diminished if:

- the volume of analyses is increased, without proportionately increasing staff
- the fee rates charged for the analyses are increased, and there is no loss of volume
- the expenditure is reduced.

We estimate that there is a large market for ETL’s services both within the County and outside with other public organizations. However, the ETL has little or no business development capability. The fact that the DPW issued an RFP for $2 million per year of environmental laboratory services to which the ETL is unable to respond should be a serious concern.

There are plans to increase fee rates, but the process for drafting potential new fee rates needs improvement. We understand that the County does not intend to make a profit from its services, but the process used has produced draft new fee rates that do not cover the cost of the ETL, taken considerable staff time and is currently causing the ETL to lose business.

Reducing expenditure is more difficult due to the needs for certifications and specialized equipment. To reduce expenditure, the number of different matrices performed would need to be rationalized, based on more in-depth study than is appropriate here. Some uneconomic services would need to be terminated or outsourced. A severe rationalization would only be appropriate if the ETL joined with another laboratory.

The budget process also needs to be revised to make the budget figures more realistic and to make ETL fully accountable for its own budget.

4. Space Considerations

If the ETL stays within the ACWM organization, there are three possibilities for its physical location and space requirements:

- Leave the ETL As It Is
- Refurbish the Current Facilities
- Relocate to a Building in a Different Area

These possibilities are examined below:

i. Leave the ETL As It Is

It appears that the ETL's existing facility adequately accommodates the level and volume of testing requested by their customers. It also meets the regulatory requirements for approval of State and Federal agencies. The second floor, where the majority of the testing takes place, is accessible by elevator making this floor available to disabled customers and staff. The only negative at this location is the placement of the Lead Laboratory and Multiple Elements Laboratory on the ground floor. This is not a major issue in terms of testing because these two laboratories tend to be self-sufficient.

The second floor of the building as laid out allows for the staff to work efficiently with minimum disruption or inconvenience. The Organic and Inorganic laboratories are located on opposite sides of the floor with all the support functions centralized between them. This allows for an efficient use of space and a minimum of travel to each of the support functions. Because the floor is configured in this manner it allows for minimum corridors (circulation) thus maximizing the useable square footage. A currently budgeted and scheduled renovation project for January-February 2013, would correct the most pressing requirements for fume and ventilation hood replacement, sink and sink-cabinet replacement, gas-valve replacement, and autoclave room improvements. Thus the ETL could remain in this facility and continue to operate at the current acceptable level for the foreseeable future.

ii. **Refurbish the Current Facilities**

The current facility is over 20 years old and although it continues to function adequately many of the building components and systems may have reached the end of their life span. Below are recommendations for the possible refurbishment of the ETL:

a. The current lay in ceiling tiles are stained and broken in areas and should be removed and replaced. It is unknown whether some or all of these tiles have been stained by interior piping leaks or exterior roof leaks.

b. The air conditioning supply and return grilles are also stained or deteriorated.

c. The scope of work for finish repair or replacement and roof repair or replacement can be done in tandem with improving the gas storage system and the upgrade/repair of the piping for the gasses that will occur above the ceiling. If any upgrading or replacement of the IT system is being considered, this would be the ideal time to implement this scope along with any re-cabling for phones and computers that may be required.

d. The lighting is old and inefficient. By replacing these with new fixtures and switching, the operating costs for the Lab would be reduced.

e. New equipment such as eye wash units, sinks and faucets should be installed which again are more efficient and easier to operate.

f. The existing exhaust hoods are in the process of being replaced or upgraded.

g. Several package air-conditioning units have been installed where the heat loads have increased with the installation of new laboratory equipment. A general review of the existing HVAC system should take place to review the adequacy, functionality, and condition of the existing system.

h. A review of the current electrical infrastructure should also take place. Indications were that the system is adequate but the review should take place none the less to determine remaining life expectancy. The existing emergency generator has not been functioning for over 10 years. A temporary generator is brought to the site in a timely manner in the event there is a power outage. This has only been necessary on two occasions in the past ten years.

i. To our knowledge, the current vacuum pumps and air compressors are functioning within normal parameters.

j. The restrooms should be updated with more current water-saving fixtures and accessories.

k. The existing sheet vinyl flooring is old and has been patched in several locations and therefore should be replaced.

l. All the current finishes including paint, window blinds and other flooring should be updated.

m. In order to provide additional laboratory space at the current ETL, several storage functions, for example, records and secure chemical storage, should be considered for relocation to the adjacent warehouse, allowing the space to be re-purposed for the Inorganic Laboratory.

n. The Administration area could be reconfigured, reducing its footprint and allowing the Organic Laboratory some additional space. Again because of the current layout of the laboratory and support functions, this modification would be of minimum disruption to the operations.

The refurbishments could cost up to $1.5 million, in addition to more than $500,000 work already planned for January to March, 2013.

Should the five open positions be filled, there is a vacant office ready for the Deputy-Director: note that "Deputy Director" is the ACWM title previously and currently given to the Director of the ETL. The Senior Chemist position is for the Organic Laboratory. This person could have a desk against the wall, or, with some reconfiguration, a cubicle. The two Chemists positions are one for Organic and one for Inorganic, and they would be located at the benches in each laboratory. There is one vacant position in each. The final open position is for a Laboratory Assistant who would be a "floater".

iii. Relocate to a Building in a Different Area

Relocating to another County Owned building may give the ETL the opportunity to move into a new facility and allow all the laboratories, including the Lead Laboratory and Multiple Elements Laboratory, to be contiguous. The site will need to allow for staff parking and accommodate the drop off and pick up of samples by their customers. The costs to build out the laboratories and support functions in another location would be significant due to the infrastructure needed for the lab operations.

The ETL would be relocated to an existing facility on County-owned land, thus eliminating the one-time cost to purchase land and on-going costs to rent space. The utilities available on the relocation site would need to be adequate to support the lab functions. The shell and core of the facility would need to be adequate to support the lab functions in terms of configuration, accessibility, and structural capacity. Existing fixtures, furniture, and equipment could be relocated from the current ETL. Emergency power will need to be addressed. Our estimate is that a new building on County-owned land would cost between $10 and $13 million, comprising:

Programming, Planning, Design, Construction Documents:	$1-1.5 million
Construction:	$8-10 million
Soft Costs:	$1-1.5 million
Total Conceptual Project Budget:	$10–13 Million

This includes ISD fees, permits, fees, development studies, moving costs but excludes new fixtures, furniture & equipment and instrumentation.

5. Staff Attitudes

The Chief of Environmental Toxicology, the two Supervisors and the 15 staff at the ETL work diligently to satisfy the clients and produce test results with the required accuracy within the time allowed for the tests.

Discussions with clients have indicated that, in every respect, the services provided by the staff are appreciated and satisfactory. The latest Customer Satisfaction Survey, sent out on November 6, 2012, currently has 79 Very Satisfied, 20 Satisfied and zero responses less than satisfied from 13 respondents in DPW and DPH. Many of the written in comments emphasized how very satisfied the respondents were and showed appreciation for the staff.

The staff at the ETL recognize that they have the modern equipment to do more advanced testing than many other laboratories, but they also realize that the gap between revenue and expenditure, poor business development capabilities and the fact that the ETL has been without a Deputy Director for more than four years indicate a lack of leadership from the Department.

Furthermore, the staff realize that there is nobody within the ACWM politically active to obtain business from other County departments for the ETL. For example, they feel that they are losing business with the Fire Department because ISD is more active in its political relationships. They see counties, such as Orange County, where all the water testing is done in a single laboratory.

Overall, the staff are realistic and keen to support strong leadership that will make a change for the better within a reasonable time frame.

6. Support Services

The support services that the ETL requires are largely provided by ACWM and by Los Angeles County Internal Services Division (ISD). In general, the support services are slow, as they are in other County departments, but they enable the ETL to operate.

Human Resources

Promotion, the use of interns and the old-fashioned titles that are given to the staff are among the Human Resource issues. The titles make recruitment difficult and do not help the staff when attending external meetings.

Information Technology

ACWM Information Technology (IT) support is off-site and allocated to ETL on Thursday and every other Friday. However, due to holidays, vacations and other distractions, it seems to the system users that support is not always provided as scheduled.

The ACWM has nine IT staff for a Department of about 400 staff – a ratio of approximately 1:44. The Department, including the ETL, has a Microsoft Windows operating system that is three generations behind the current one, uses Microsoft Office 2003 instead of Office 2007 or Office 2010, and ETL still uses Word Perfect for some of its forms. An update of Microsoft software is planned for early 2013. As a general rule, well supported systems have about one help desk person for every 50 users, in addition to network, communications, applications and other staff.

The Laboratory Information Management System (LIMS) has not been fully implemented. The software provider, Chemware, recommends an on-site, 0.75 FTE LIMS Administrator. Though ETL receives its share of the Department's IT resources based on the number of staff, and is able to operate its IT systems, the shortage of support creates problems, for example:

- when there are problems interfacing with clients, prompt resolutions of the problems are required, which is not helped by having to phone the off-site IT support who have variable response times. Reports not producing the desired results and uploads of laboratory results to DPW not working due to software issues are examples of problems that have occurred. In the first survey of 2012, the difficulties with the upload to DPW caused the Customer Satisfaction Survey to receive a response of Very Unsatisfied.

- orders for the collection of samples are printed with a bar code, but the bar code cannot be scanned when the samples are received because the appropriate software module has not been implemented. The software does work but not in a manner that the ETL can use. The ETL staff have to enter the data again manually, into a window that sits in a corner of the screen instead of filling the screen. This issue has been on the LIMS Troubleshooting Tracking Sheet for two years, but we understand that one of the reasons a solution has been delayed is that, around early 2011, the CEO's office put a moratorium on new software purchases.

- training on LIMS functions is not readily available without losing time for other support
- IT staff who support LIMS once a week need time to remember the point at which they stopped last week, thus reducing the effectiveness of the day.

In our experience, such problems are not unusual across the broad spectrum of IT installations, but support could be improved.

Maintenance of Facilities

Our general impression is that the laboratory premises are being maintained so that they function. The premises look outdated and this gives an initial impression that the laboratory work and equipment could also be behind the times. This is not so, but it could make business development more difficult when potential clients wish to see the laboratory.

The roof has had many leaks as indicated by the level of discolored tiles throughout the 2nd floor though some of the leaks are from piping and not from the roof. Items of standard repair when requested such as new lamping in light fixtures, leaks in pipes to the sinks, etc., appear to get fixed in a timely manner by ISD. Carpet cleaning is adequate.

Major items of repair such as a new roof or the emergency generator are put off for budget reasons more than any other, or, in the case of the generator, never repaired. The piping system for several gasses is not being utilized due to leaks in the valves. The interim solution is to provide tanks at the benches, which is not the ideal solution from a practical, space or safety point of view. The restrooms appear to have been maintained fairly well, none of the fixtures or partitions are in disrepair. The sheet vinyl flooring throughout is old but in most cases its integrity has not been compromised.

The lab has been inspected and certified by several agencies every two years, including the Federal American Industry Hygiene Association (AIHA), and State of California Environmental Lab Accreditation Program (ELAP). Therefore the observed deficiencies have not prevented ETL from functioning at a level that is acceptable to the leading accrediting agencies.

The mechanical system was reworked approximately 4 years ago and appears to provide adequate heating and cooling in most areas. Where heat is concentrated, such as in the Extraction and Spectrum laboratories, separate split-system air conditioning units are utilized. In our experience, HVAC and electrical systems have a life expectancy of 15+/- years, even with regular maintenance. That would suggest that the ETL, which was built in 1990 in its current location, could need some significant additional HVAC and electrical work in the next 3-5 years.

The ETL is scheduled for some refurbishment which is to take place in several phases beginning in late January and lasting into March, 2013. The refurbishments are to include 12 new exhaust hoods, sinks and counters and plumbing connections along with a larger hood, ceiling, and wall repairs in the Autoclave room on the 1st floor. These scheduled refurbishments are expected to cost in excess of $500,000.

7. Placement of Other County Laboratories

We are not aware that any other local county has a laboratory in an agricultural department.

8. Time and Difficulty of Implementing Change

There are four alternatives available to the ACWM:

- Maintain the status quo
- Maintain the Current Placement of the ETL within the ACWM but Revitalize the Direction
- Transfer the ETL to Another ACWM Bureau
- Redefine the Roles of ETL and PHL and Transfer PHL's Microbiological Water Testing to ETL

These alternatives are examined below.

1. Maintain the status quo

For the purposes of this study, maintaining the status quo does not require time and, because no changes will be implemented, there are no relevant difficulties. However, we anticipate that without revitalizing the direction of the ETL, as in alternative 2 immediately below, at some point in the future an event will trigger a decision to close down the ETL. We have therefore not considered this alternative further, preferring alternative 2 or 4 below.

2. Maintain the Current Placement of the ETL within the ACWM but Revitalize the Direction

Revitalization of the ETL's direction will require a clarified vision, a new Mission Statement, the appointment of a Deputy Director to lead the ETL, the development of a strategic plan and means of ensuring that the ETL secures new business that benefits the County.

Although we have not studied the market for ETL's services in any detail, it appears that there is more than enough demand for efficient toxicology testing of water and other substances that the ETL could do. In particular, to mention just a few high-level tasks, a revitalized ETL would:

- work closely with its clients to determine their long-term environmental toxicology testing needs and adjust its staffing, certifications and purchases of equipment accordingly

- prepare a strategic plan that sets out a clear vision, that relates to its clients needs and is supported by the staff, a new Mission Statement and steps to achieve the objectives that the plan defines

- become politically active within Los Angeles County to capture, or at least be considered for, all of the County's needs for testing that the ETL can do. We would expect that no County department would issue an RFP for testing that the ETL could do, without first consulting the ETL. In most cases, it should be the ETL that issues the RFP, if needed, to ensure that the client department obtains the environmental toxicology testing services that it needs. As a back-up, we would also expect that the Board of Supervisors would not award contracts to outside toxicology testing laboratories without consulting the ETL and considering how satisfactory provision of the services could be arranged at minimum cost to the County

- adjust its fee rates using a more sophisticated pricing algorithm than basing fees on a process that does not produce adoptable new fee rates

- rationalize its services, as a result of which select, infrequently required services, whose costs exceeded revenues and which do not unduly impact important clients, would be sent out to other laboratories

- establish annual budgets and an acceptable Net County Cost that bear a close relationship to the results that will be achieved and for which staff at the ETL will be accountable

- negotiate with DPH and ISD a logical distribution of water testing within the County, so that the service is most effective and the costs are minimized. Competing and overlapping services should bear particular scrutiny to determine if they serve the best interests of the County as a whole.

Practically all of these tasks could be the work of a Deputy Director in charge of the ETL.

3. Transfer the ETL to Another ACWM Bureau

The organizational chart of the ACWM shows that the department has an Environmental Protection Bureau, which, if only in regard to its name, could be a location for the ETL.

The bureau's functions include Pest Eradication, Red Imported Fire Ant/AHB and Pest Detection, Fruit Fly Trapping in accordance with the main focus of the ACWM. While there is no doubt that pest eradication and pest detection does protect the environment, so does ensuring the quality of water and the other services that the ETL provides.

The main reason for transferring the ETL to another ACWM bureau would be to give the ETL a Deputy Director who would quickly direct the ETL proactively and take the measures outlined under Point 2 immediately above. However, the ACWM needs to focus on its current main programs to which the ETL does not contribute significantly. Hence, transferring the ETL to another ACWM bureau is unlikely to bring about the changes required.

4. Redefine the Roles of ETL and PHL and Transfer PHL's Microbiological Water Testing to ETL

Although the work of the PHL and the ISD laboratories have not yet been discussed in this report, the next section will show that the PHL also provides microbiology services for testing water. In combination with revitalizing the direction of the ETL, rationalization of the current situation so that the County does not have more than one laboratory doing the same types of work could benefit the ETL from the transfer of PHL's water testing work to ETL.

However, this change should be accompanied by a campaign to inform all County departments about ETL's testing services. We were informed by other county departments that they did not use some of ETL's services because they were not fully acquainted with the services that ETL could provide.

5.2 Transfer the ETL to the DPH

1. Logical Affinity

The Department of Public Health, under a different name, is the Department in which the ETL was originally born. It has many divisions, of which the most relevant to the ETL placement are the Communicable Disease Control and Prevention Division and the Environmental Health Division. The Communicable Disease Control and Prevention Division has a microbiology laboratory – the Public Health Laboratory (PHL). The Environmental Health Division has a Bureau of Environmental Protection and a Bureau of Toxicology and Environmental Assessment, both of which have requirements for tests which the ETL could satisfy.

The PHL's organization includes the following sections: Molecular Biology (Pulsed-Field Gel Electrophoresis technology), General Bacteriology (includes food microbiology and botulism testing), Mycobacteriology and Mycology, Parasitology, Virology (includes opening and autopsy of animal heads for rabies testing), human Serology, Food, Dairy and Water Microbiology, Lead (human) and Support Services. All staff members testing and reporting laboratory results hold certificates from the State of California as public health microbiologists. The remainder of the staff are laboratory assistants and support personnel.

Affinity analysis shows that water has a close association with human health. Documents from the Department of Public Health confirm the affinity, for example:

- In its September 21, 2012 Mission Statement the DPH says, "The PHL provides laboratory support for other divisions and programs within the Department of Public Health (DPH) involving their missions to improve the safety of environmental resources, reduce exposure to contaminants and pollutants, and reduce transmission of communicable diseases among the general population."

- In its Mission Statement the PHL says, "The PHL also provides laboratory support for other divisions and programs within the Department of Public Health (DPH) involving their missions to improve the safety of environmental resources …….."

- The PHL has a draft Strategic Plan titled, "Strategic Plan 0211-2016". The plan includes Strategic Priority 4: Expansion Of Comprehensive Public Health Laboratory Services. Under that priority, Objective 4.2 is, "Enhance environmental chemistry testing services to include chemical analysis of drinking water and additional surveillance analyses of environmental hazards to community health."

- The Bureau of Environmental Protection in the Public Health Department is comprised of seven, very technical, specialty programs: Cross Connections and Water Pollution Control, Drinking Water, Emergency Preparedness & Response, Land Use, Radiation Management, Recreational Waters, and Solid Waste Management. In relation to the drinking water program they monitor wells and small water systems, which includes collecting water samples from small water systems to monitor the levels of bacteria, chemicals, and other elements set forth in the State Drinking Water Standards.

Further evidence of DPH's affinity to water is included in Appendix V – General Information Relating to DPH.

Logical Affinity Conclusions

There is no doubt that water has an affinity to public health and to the work and objectives of the Department of Public Health. Thus, on this criterion alone, the DPH is a suitable organizational location for the ETL.

2. **Services Offered**

The Department of Public Health has its own laboratory, PHL, which employs about 115 staff and offers a variety of testing and reference microbiologic assays to detect and identify bacterial, viral, parasitic, and fungal pathogens of public health importance and clinical significance. PHL also performs applied research activities as needed for method development related to innovative laboratory services essential for the detection, epidemiologic investigation, control, and prevention of communicable diseases and disease-related outbreaks associated with human illness, adulterated foods, contaminated water, or non-sterile medical devices and biologicals.

The PHL provides Colilert®, Enterolert®, MTF Confirm, Heterotrophic Plate Count, Fecal Coliform, Enterococci and MTF Presumptive tests on water. Most of the tests, 5,074 out of a total of 5,248 water tests in 2011, are Colilert-18® and Enterolert®, and are performed on samples of recreational water and samples taken from the PHL's own water system. For example, the PHL tests weekly water samples from 46 points along the County's beaches, provided to it by the Environmental Health Division of DPH.

Thus, there is some overlap with the tests offered by the ETL, who also do Colilert-18® tests and tests for enterococci, but also do many more microbiological, as well as chemical, tests on water.

Though the PHL has the capability to do some chemical tests it does not test for chemicals at the present time. Other divisions within the DPH, such as the

Toxicology and Environmental Assessment Division in the Environmental Health Division, would use the PHL for chemical testing if it offered the service.

It seems that the DPH would improve its services if it was also able to do routine testing of chemicals, and that the County would benefit from reducing the duplication in services provided by the PHL and ETL. However, it has to be recognized that adding routine chemical testing capabilities to the PHL's services would not be as straightforward as it may sound. The sciences of chemistry and microbiology are different, different certifications are required, and different clients are served. Thus, the PHL would need to develop new capabilities to manage the ETL if the two laboratories were combined, which would not be very different from placing the ETL in any of the DPH's divisions.

3. Financial Viability

A few years ago, the annual operating budget for the (PHL) laboratory was $14.3 million of which $9.3 million represented the Net County Cost (NCC). The PHL NCC was less than its expenditure due to the receipt of nearly $5 million in grant funds annually. Over the last two years the target NCC for the PHL has been cut to $7.1 million. One year the PHL exceeded its target NCC and last year it finished with a similar amount below the target NCC. The PHL actively endeavors to meet its NCC target each year. Staff, the Assistant Director in particular, visit clients to develop business. The staff at the PHL take responsibility for meeting their own budget.

The staff at PHL have been working to revise their fee rates for the testing that they do, employing a method similar to that used by the ETL, i.e. measuring the time taken by staff and equipment to do tests, and adding in the costs of services and supplies. New fee rates were adopted by the Board as this report was being prepared.

There is some concern that if the ETL was merged with the PHL the ETL would make it more difficult for the PHL to meet its target NCC. This issue was mentioned in the Comments on the Consolidation of the ACWM Environmental Toxicology Lab (ETL) into the DPH Public Health Lab (PHL), prepared by the Department of Public Health on July 20, 2010, when it was thought that the NCC of the ETL was about $1.2 million per year. As explained in Section 5.2 above, in any transfer between Departments, the NCC would be about $2 million per year.

4. Space Considerations

If the ETL is transferred to the DPH, there are four possibilities for its physical location and space requirements:

- Leave the ETL As It Is
- Refurbish the Current Facilities
- Relocate the ETL to the PHL's premises
- Move the ETL to a Building near the PHL or to a Building in a Different Area.

These possibilities are examined below:

i. Leave the ETL As It Is

As explained in Section 5.1.4.i above, the ETL could continue to operate at its current staffing level in its current condition at its present location for the foreseeable future. It could not accommodate an additional 5 – 7 staff, for example, all the staff in the Water Lab of the PHL.

ii. **Refurbish the Current Facilities**

Refurbishment of ETL's current facilities would be the same under the ACWM or the DPH. The refurbishment required is detailed above under Section 5.1.4.ii. After refurbishment, unless the four open positions are not filled, the current ETL would still not be able to accommodate up to 4 or 5 additional staff from the PHL's Environmental Microbiology section, should the ETL's and PHL's microbiological water testing services be rationalized.

However, if the building in which the ETL is housed was transferred to the DPH along with the ETL, so that the ETL became the prime user for the building, the PHL water testing function could be accommodated in the existing ETL building. A new laboratory could be built out on 1st floor combining the PHL group along with some of the ETL Microbiological staff so that these functions are together. This would allow the existing Organic and Inorganic laboratories on the second floor room for future growth.

In the event the PHL-ETL client base and / or work load grows and expansion is required, the other users on the 1st floor in the building would need to be moved out to allow for the required expansion. The laboratory functions at the ETL building are currently split between floors. Both the Lead and Elements Laboratories are currently located on the 1st floor so it may be possible to reduce the costs for the build out of a new microbiology laboratory space on the 1st floor by utilizing the existing adjacent infrastructure which appears to be sufficient to handle the additional loads.

iii. Relocate the ETL to the PHL's Premises

The PHL does not currently have enough space to accommodate the ETL.

iv. Relocate the ETL to a Building near the PHL or in a Different Area

It would probably be possible to build a new two-story building on the site of the trailer currently used by PHL. However, as explained above in section 5.1.4.iii, it would be expensive, costing in the region of $10 – 13 million.

It is also possible that an existing building could be found that could accommodate the ETL. We appreciate that the ACWM wishes to take over the premises that the ETL currently occupies and use it for office purposes, but in view of the difficulties of moving the ETL we consider that it would be easier to find a different building for office space.

5. Staff Attitudes

Senior staff at the DPH have an open mind as to the organizational placement of the ETL but are not keen to accept the laboratory, as evidenced by more than six months of discussions since the Board of Supervisors asked the CEO to report on the feasibility of moving the ETL from the ACWM to the DPH. Senior staff at the PHL are strongly against merging with the ETL, pointing out the difficulties of managing a laboratory with which they have little in common, particularly if it is in a different location. Other staff at the PHL are neutral though they cannot see how the ETL could fit into the space occupied by the PHL. There is even some thought that adding chemical testing to the small chemical laboratory at PHL and doing chemical and more microbiological water testing, could be good for the PHL in the longer term.

6. Support Services

The PHL is in a building that was re-purposed five years ago. As a consequence, the building has a much more modern appearance than ETL's premises.

The PHL has six information technology staff on the premises. The Sunquest Laboratory Information System (LIS) has been fully implemented with the upgrade to version 7.1. IT support for high-priority, short-term system problems is immediately available. The PHL has its own data center, as compared to the ETL which uses that of ISD at a cost to ETL of about $8,000 per month.

If the ETL was to be merged with the PHL we would expect that the PHL's support services would need to be expanded but that they would be able to cope.

7. Placement of Other County Laboratories

Of the seven County laboratories that responded to our survey and the question regarding the placement of the water testing laboratory in their organization, five of the laboratories were in a Public Health Department, or equivalent.

8. Time and Difficulty of Implementing Change

The three organizational placements within the DPH considered are:

- Transfer the ETL to the DPH and place it in the Environmental Health Division or the Communicable Disease Control and Prevention Division
- Merge the ETL with the PHL
- Restructure the PHL/ETL.

These alternatives are examined below.

1. Transfer the ETL to the DPH and Place It in the Environmental Health Division or the Communicable Disease Control and Prevention Division

The Environmental Health Division of DPH has many responsibilities, some of which relate to water. However, it currently has no capability for testing water. The Communicable Disease Control and Prevention Division has the PHL which tests water within its organization.

The pros and cons of placing the ETL in either division are similar for most of the evaluation criteria, except for:

- Logical Affinity: The Environmental Health Division requires the testing services that the ETL performs, but the argument for a client-centric placement of the ETL with the Environmental Health Division is overwhelmed by the argument for placing it in the Department of Public Works, which is a much larger client of the ETL.

  The greatest number of tests that the ETL currently performs is on drinking water. The ETL deals more with environmental health issues than communicable diseases.

- Time and Difficulty of Implementing Change: Locating the ETL directly in the Communicable Disease Control and Prevention Division, which has the PHL, under the control of the Director of the Division who is the Project Manager for this study, would make for a slightly easier transition than placing it in the Environmental Health Division.

Long term the Environmental Health Division could be a logical place for the ETL, but in the short-term, an easier transition outweighs the theoretical benefits of a more logical affinity.

2. Merge The ETL with the PHL

If the ETL was merged with the PHL it could not share the same building because there is not sufficient space. However, it would be possible to erect a two-story building to replace the trailers that are adjacent to the main building and in which some staff are currently located. Alternatively, the ETL could be left in the building in which it is presently located, which is only about one mile from the PHL, or relocated in another building. As explained above, if the ETL and the PHL were merged, the most sensible location for the ETL would be for it to stay in its present location.

The merged laboratories would adopt the DPH policies and procedures. Purchasing would be routed through DPH. Maintenance of facilities could continue to be provided by ISD. Administration staff at ETL would need to be trained in the new procedures. Management at the ETL would remain attending to the majority of the day-to-day work, but management at PHL would also need to accommodate additional workload.

IT support would be provided by PHL staff, and within a reasonable time, the ETL would discontinue the use of LIMS and transfer to LIS, which is run at the PHL data center. In the interim, ACWM would be expected to support LIMS until the transfer took place. ETL's personal computer software would be upgraded to be the same as PHL's.

Any rationalization of overlapping microbiological water testing services would be determined by the PHL and ETL management in discussion, but it would seem to make sense for the County, if not the laboratory staff, for there to be only one place doing microbiology testing of water and only one place doing other particular matrices.

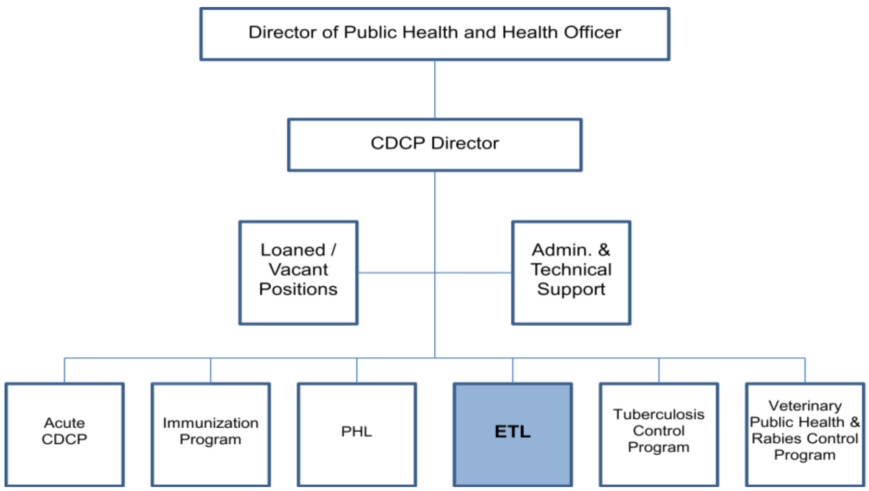
The time for ETL to transition from the ACWM to the DPH would be about a year, and there would be transition costs. However, once the year was over, as far as the County is concerned, the increased costs incurred by the DPH should be offset by reductions in costs by the ACWM – unless the transfer was made financially neutral and the ACWM continued to carry the NCC of the ETL. Then the PHL would not incur extra costs.

3. Restructure the PHL/ETL

This alternative considers the totality of the services provided by the ETL and the PHL. Recognizing that there is a difference between a chemical laboratory and a microbiology laboratory - a difference that is enhanced by having different locations and different clients - it would seem appropriate to have two separate laboratories arranged in a logical manner to cover the services required.

If the work of the PHL and the ETL was logically rationalized, there would be no overlapping services. The determination of the work to be done by each laboratory would not be decided by discussions between the PHL and ETL, though the staff in the laboratories would obviously advise on the matter, but would be decided at a level above the laboratories, that is at the Communicable Disease Control and Prevention Division level. Each laboratory would operate independently, using shared support services where appropriate, and be coordinated at the Division level. The ETL would be added to the four Programs and PHL already in the organization chart as a sixth entity, as shown below.

Figure 5.21 – Potential Organizational Chart



There would still be substantial change due to relocating some staff both organizationally and physically, the adoption of DPH policies and procedures instead of those of ACWM, the movement of some equipment, and the changes in support services. The degree of change would be about the same, though different, as if the ETL was merged into the PHL. The PHL management would be affected less, but the divisional staff would be affected more. To assist the divisional staff, one additional senior administrative ETL position would be necessary at an estimated annual cost of $101,800 in salary and employee benefits. The new position would be needed at the ETL to provide administrative support and assist with assignments from the Board, DPH Executives, CDCP Director, Human Resources, Finance, and Materials Management to name a few. The position could also assist with revitalizing the ETL, strategic planning, establishing and obtaining approval for a new rate structure, and other needs that may occur if the ETL were transferred to DPH.

The ETL may not need to change from LIMS to LIS if DPH IT support is willing to train on LIMS, but facilities maintenance, HR, purchasing, accounting and finance would become responsibilities of DPH instead of ACWM. We would expect that the time and cost for the transition would be about the same as merging the ETL with the PHL.

5.3 Transfer the ETL to another Department within Los Angeles County

This alternative considers a client-centric organization in which the ETL becomes part of its largest customer, the Department of Public Works (DPW) - a transfer to the DPW being preferable to a transfer to ISD.

1. Logical Affinity

DPW provides 90% of the tests that the ETL performs. In relation to water it is organized into Waterworks, Flood Maintenance, Water Resources, Watershed Management and Disaster Services Groups. DPW is concerned with groundwater banking, recycled water, water supply recharge, water conservation, water reclamation, dry-weather urban runoff, water quality monitoring, enhanced waterways. There is no doubt that the DPW has a strong logical affinity to water and the ETL.

2. Services Offered

The DPW does not have a water testing laboratory. If the ETL was located in the DPW, the DPW would need to adopt the ETL as an ongoing concern. The services of the ETL would not change immediately unless the DPW decided to restrict the ETL to provide services only to the DPW. In the longer term, the type and volume of ETL's services are likely to increase, because parts of DPW, that currently use outside laboratories for the testing of soils and other types of samples that the ETL could test, would transfer their testing to ETL.

3. Financial Viability

The main user of the ETL is the Waterworks Division of the Department of Public Works. It comprises five Water Districts that are not owned by the County. The County's Board of Supervisors is also the Board of Directors for the Water Districts.

The main aims of the Water Districts are to satisfy the regulations and have water testing done economically. The Waterworks Division spends less than $500,000 per year with the ETL. On its own it is unlikely to be able to support the ETL, but in combination with other divisions in the DPW it probably could. There would need to be some financial arrangement with the County to prevent the DPW's costs for water testing from rising, at least during a transition period.

4. Space Considerations

We have not investigated whether the DPW has space to house the ETL in different premises than the ETL is in now.

5. Staff Attitudes

At meetings held on December 18, 2012 and January 14, 2013, the DPW was given an opportunity to take over the ETL. It declined to do so. ISD similarly declined to take over the ETL.

6. Support Services

The DPW is a large Department with about 4,000 staff and commensurate support services. It has its own IT staff but does much of its purchasing through ISD.

7. Placement of Other County Laboratories

Based on our survey and seven responses informing us about the department in which other Counties locate their water testing laboratories, only Ventura County has its laboratory in a department of public works.

8. Time and Difficulty of Implementing Change

The time and difficulty of transferring the ETL from the ACWM to the DPW has not been investigated in detail but is expected to be similar to transferring the ETL to DPH.

5.4 Outsource Most of the Work of the ETL

This alternative considers closing down the ETL and its clients using other laboratories. The best arrangement with this alternative is for the microbiology tests currently done by the ETL to be done at the PHL, and the other tests to be outsourced, probably to private laboratories.

1. Logical Affinity

The PHL is already doing microbiology tests on water. The private laboratories that would be selected for the other tests already do those tests. There is no issue with the logical affinities for this alternative.

2. Services Offered

As of June 2012, in California, the ETL is one of 604 ELAP/NELAP accredited laboratories, 46 of which are county laboratories, one of 146 laboratories certified for nitrate analysis in drinking water, and one of 44 laboratories certified for Chromium (VI) analysis in drinking water.

It would be sensible for the PHL to take over the microbiology testing that the ETL performs and to outsource the other testing. We have not done a survey of outside laboratories to ensure that all of the ETL's other services can be obtained from other laboratories. However, everyone that we have discussed the topic with during the study, including the senior staff at the ETL, believes that all of ETL's services are available at other laboratories.

The ETL prides itself on the fact that its wide variety of tests provides a one stop shop for its clients. We do not know whether all of ETL's current services can be obtained from one laboratory. However, ETL clients that we have spoken to do not see a problem with splitting a sample and combining the results when they are received from different sources.

We received nine responses to a survey of a dozen County or State organizations that have a laboratory conducting routine testing of water. The survey was administered on-line following a telephone call to each organization to determine the most appropriate respondent. A copy of the survey form is shown in Appendix VI. Results are shown in Appendix VII. The name, title, and contact information of each person who provided other counties' information are listed in Appendix VIII.

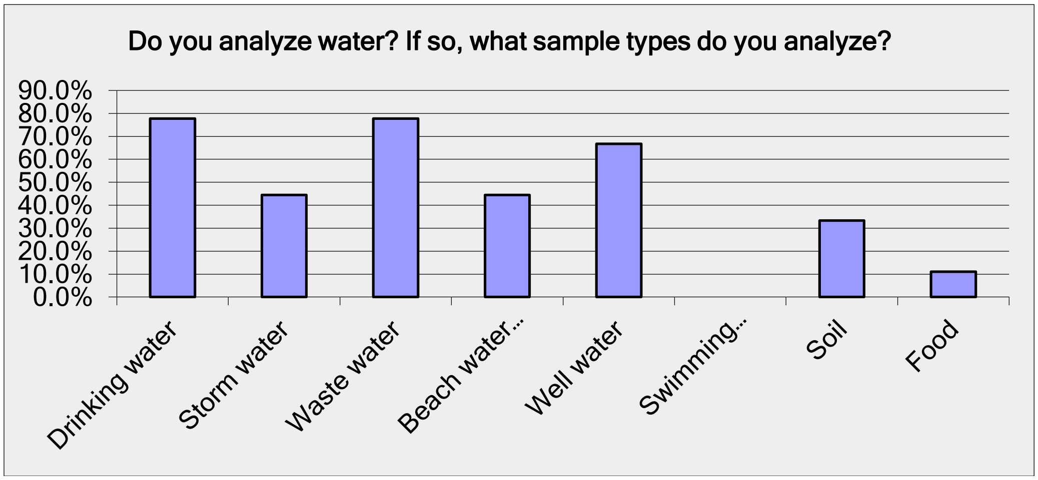
The organizations solicited were:

1. Alameda County Public Health Laboratory
2. Water Pollution Control Laboratory ✓
3. Monterey County Consolidated Environmental Laboratory ✓
4. Orange County Public Health Laboratory ✓
5. Riverside County Public Health Laboratory ✓
6. SRCSD Environmental Laboratory ✓
7. San Bernardino County Public Health Laboratory ✓
8. San Diego County Public Health Laboratory ✓
9. SFPUC WQD Southeast Wastewater Treatment Plant Lab ✓
10. Santa Clara County Public Health Lab
11. Ventura County Waterworks Districts ✓
12. State of California Environmental Chemistry Lab

A total of 9 responses were received (identified by checks above). A detailed conversation with staff at the Environmental Laboratory Accreditation Program (ELAP) revealed that the State does not have a laboratory that undertakes any routine testing of water. Testing is done only for research purposes or in connection with hazardous materials.

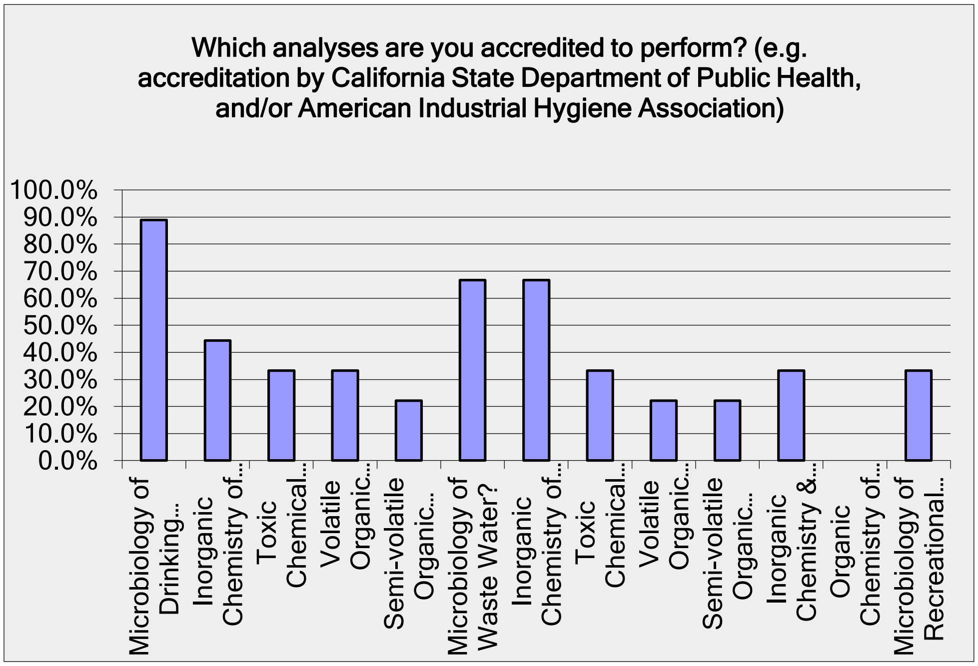
All of the respondents conducted some analysis of water. Seven of the 9 respondents provided analysis of drinking water.

Figure 5.22 – Types of Water Analyses by Other Counties



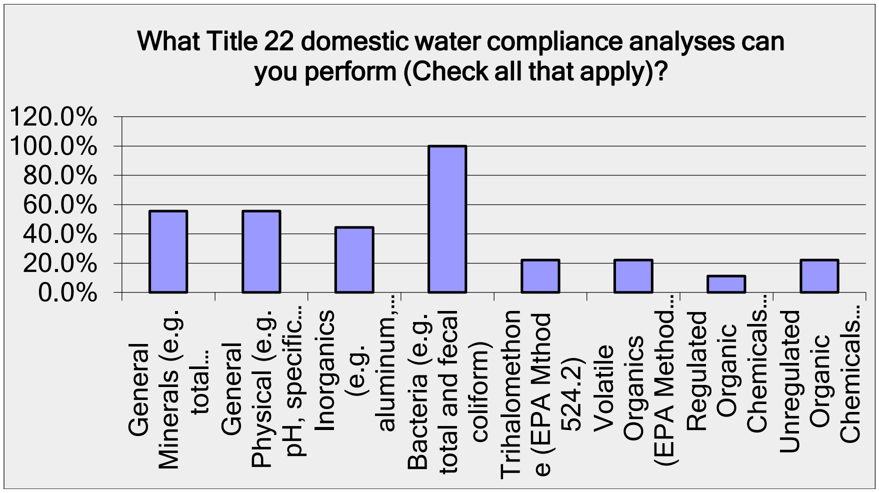
Eight of the respondents provided microbiology of drinking water.

Figure 5.23 – Accreditations of Other County Laboratories



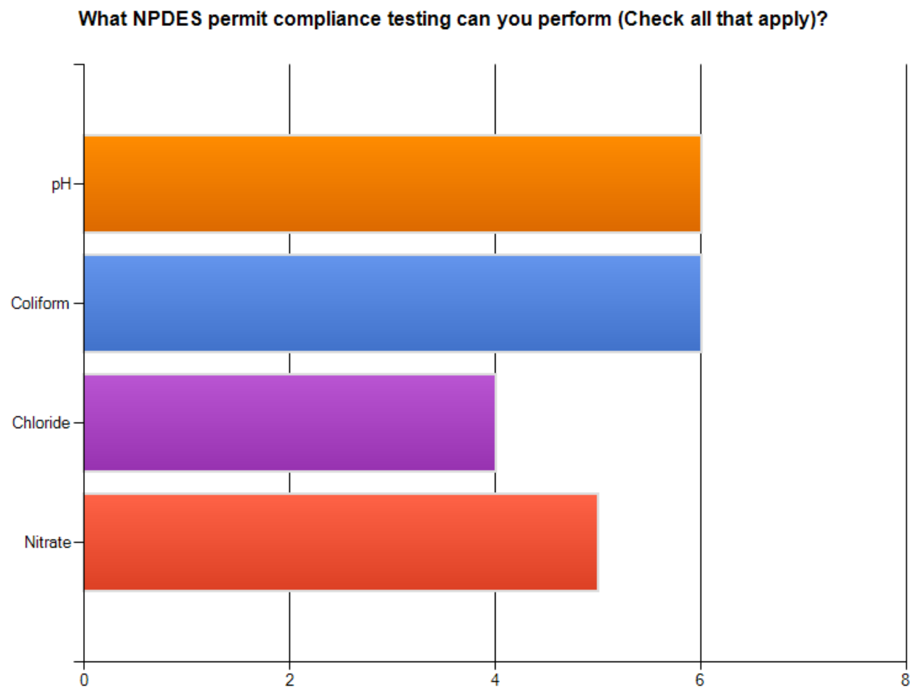
All of the labs were accredited to perform bacteria analysis for Title 22 compliance.

Figure 5.24 – Title 22 Analyses by Other County Laboratories



Only six respondents provided NPDES permit compliance testing.

Figure 5.25 – Title 22 Analyses by Other County Laboratories



One organization was also able to perform metals, organics, BOD, COD, ammonia, total & fecal coliform, enteroccucus, TKN, and others. Only one organization provided testing of pesticide residue (Organochlorine pesticide).

The 9 laboratories represented a total of 202 staff, as follows:

Figure 5.26 – Staff Employed at Surveyed Laboratories

How many staff are employed at the laboratory? (Please provide a breakdown into the listed categories if possible)			
Answer Options	Response Average	Response Total	Response Count
Executive	1.71	12	7
Chemists	7.40	37	5
Toxicologists	.25	1	4
Microbiologists	11.50	69	6
Technicians	5.50	33	6
Laboratory Assistants	4.71	33	7
Administrative	2.13	17	8
Total	22.44	202	9

3. Financial Viability

The main advantage of closing the ETL and having clients send their samples directly to other laboratories for testing is economic. Private laboratories could probably do the tests that ETL performs at a lower cost to the County. However, we believe that, with its current resources, the ETL could reduce its NCC and cost the County only little more than using other laboratories if it increased its volume of tests, rationalized its services and revised its fee rates.

4. Space Considerations

Outsourcing the testing would free the space that the ETL currently occupies. The ACWM requires the space for office purposes.

If the PHL were to take over the ETL's microbiology water testing services, the testing would presumably be done in the Environmental Microbiology Laboratory, or Water Lab, in the PHL.

There are currently 4 full time and 1 part time staff that focus on the microbiology testing at the ETL. It may be feasible to relocate this group to the PHL even though the existing Environmental Microbiology Group at the PHL is located in approximately 500 square feet. In order to merge the ETL staff into the Environmental Microbiology Group, a portion of the adjacent Administration area and an adjoining Training Room would need to be converted to laboratory space. The construction necessary for the conversion of the Administration area being repurposed will need to be carefully considered, with provisions made so as not to affect the ongoing testing being done in the adjacent labs.

The existing infrastructure - lighting, ceilings, HVAC, etc. - now designed for office use would need to be reworked for the added laboratory functions. The existing electrical infrastructure on the site, which currently has reliability issues, would need to be investigated to determine if it can support the additional loads.

The displaced administration and training functions would be moved out of the PHL building and possibly into a new portable building similar to those currently being utilized in the back parking lot. The needed modifications to this new portable building would be minimal based on these non-laboratory functions.

5. **Staff Attitudes**

All of the county staff who oppose, or are not keen to accept, a placement of the ETL in their organization are in favor of ETL's clients using other laboratories. The staff employed by the ETL are not. Many of the staff at the ETL perform specialized work so it would be difficult to relocate them in other County positions. A few may find positions at the PHL, which should take over the microbiology testing of water that the ETL currently does, and we would expect the County to initiate a considerable outplacement effort to help the staff find other jobs.

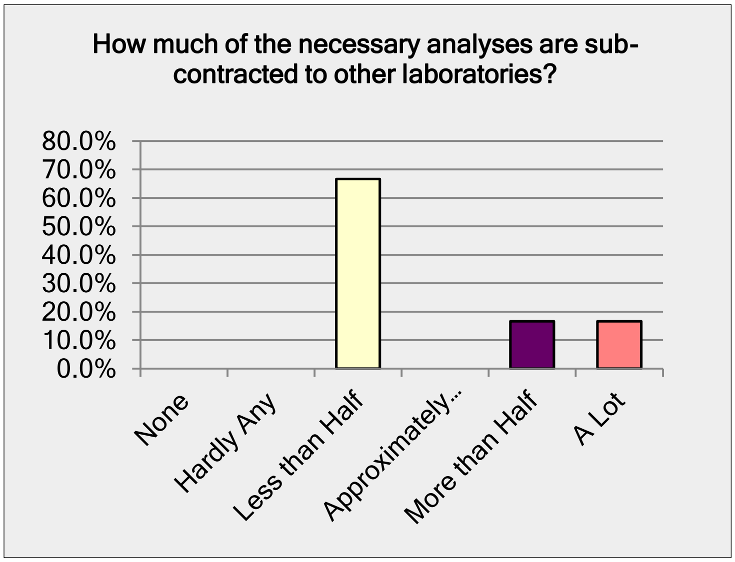
6. Support Services

Closure of the ETL would eliminate the need for support services. However, as clients would transfer their testing at different points in time, support services would be needed until the ETL was completely closed. There would be costs associated with moving, selling or otherwise disposing of equipment and other scientific apparatus.

7. Placement of Other County Laboratories

The County does outsource many of its required services, so there is precedent for using private laboratories for necessary testing. At other county laboratories, six respondents stated that they outsourced some of the analysis work.

Figure 5.27 – Work Outsourced by Other County Laboratories



The total value of respondents' outsourced work was estimated at about $700,000.

In response to the make-up of clients the other laboratories responded as follows:

- Public organizations.
- Regulatory Agencies and County Departments
- Water Testing: Private entities (small water systems)
- Internal San Francisco Public Utilities Commission clients, external include other City & County of San Francisco departments (e.g., Port, Airport, DPW), wholesale customer DW agencies (e.g., East bay and peninsula Cities & water utilities), NGOs (provide testing for environmental studies).
- It is an even mix of county departments (environmental health and water resources agency), public water systems, agricultural clients, and private.
- We will be discontinuing water testing as of 12/31/2012. Currently our clients are private clients.
- Clients are County Departments Only. (Internal ONLY) Chemistry laboratory is part of Orange's County's Public Health Department and can only perform services for intra-County Departments. Chemistry Department actively supports Public Health - Health Care Agency's various Departments like the Environmental Health, Childhood Lead Poisoning, Prevention Program, Clinics, Laboratory Safety Program for SA, Chemical Hygiene Plan training and other safety activities.
- Mainly county departments, hospitals.

8. Time and Difficulty of Implementing Change

Closing the ETL as well as selecting and working with other laboratories would not be without difficulties. It will be difficult for the ETL to continue providing necessary services while staff are leaving for other jobs.

The clients will need to select appropriate new laboratories and would likely need expert advice from ETL senior staff to enable them to evaluate the outside laboratories.

Based on our extensive experience of engaging professional services, but not laboratories, for our other clients, we consider that the major disadvantages of using other laboratories for all the testing that ETL currently does are:

1. There is a high risk that the performances of other laboratories will show considerable variations. Some will be good, but others may not be so good. It could take time for the clients to find the good ones. The ETL has a very high client satisfaction rating.

2. If the ETL clients cannot identify an outside laboratory that can perform all their needed tests, then they may have to interpret different report formats from different laboratory systems, making their work a little more difficult.

3. Other laboratories will not have the understanding of the County's requirements that the ETL staff have. Due partly to the County's policy of sharing the work between multiple laboratories, other laboratories will not develop the knowledge that the stable workforce at the ETL has.

4. ETL's clients will not have the necessary expertise to select the best laboratories for their testing. It may be best for the ETL to select suitable laboratories for the clients.

There is also an argument that the County will not have as much control over its ability to respond quickly to changes in testing requirements. However, our experience has been that private organizations respond just as quickly if a suitable contracting method is used, and maybe more quickly, considering the limitations on resources that a County laboratory may have.

We expect that it would take the best part of a year to transfer all of ETL's services to other laboratories.

6. COMPARISON OF THE ALTERNATIVES

The assessment above considered:

- Four options for keeping the ETL in the ACWM

  From the options for maintaining the ETL in the ACWM we selected option four as the most beneficial. It is very similar to alternative two, but as well as revitalizing the direction of the ETL it transfers the water testing done by the PHL to the ETL to increase efficiency.

- Three options for transferring the ETL to the DPH

  One of the three options for transferring the ETL to the DPH was eliminated. It transferred the ETL to the DPH Environmental Health Division, but the arguments for this are not as strong as placing it in the Communicable Disease Control and Prevention Division of the DPH in the short-term.

  Both the other options are compared below. One is the alternative that was assumed when we started the study, that of the PHL taking over the ETL. The other is to transfer the ETL to the DPH but to retain its identity as the ETL, doing different work to the PHL.

- Two options for transferring the ETL to the DPW

  Both options are considered for a transfer of ETL to DPW. One is where the DPW continues to operate the ETL as a service to any entity needing ETL's testing services. The other confines the ETL to serving only the DPW, with other clients of the ETL finding other laboratories.

- Closing the ETL and leaving the clients to employ other laboratories.

  This would transfer as much as possible of the microbiology testing done by the ETL to the PHL, and outsource the remainder of the testing.

In summary, the alternatives compared below are:

ACWM	Keep the ETL in the ACWM, revitalize the direction of the ETL, redefine the roles of ETL and PHL and transfer PHL water testing to ETL
PHL	Merge the ETL with the PHL
DPH	Keep the PHL and ETL separate but in the DPH
DPW	Transfer the ETL to the DPW
DPW Only	Transfer the ETL to the DPW to serve only the DPW
Private	Transfer ETL's microbiology testing to the PHL and outsource the remainder of the testing to non-County laboratories.

At the end of this section a table shows a summary of numerical ratings of the alternatives for each of the eight criteria. Please note that due to the time constraints placed on the study, many assumptions have been made about transferring the ETL to the DPW. In particular, the Financial Viability, Space Considerations, Staff Attitudes and the Time and Difficulty of Implementing Change would benefit from additional detailed investigation to establish more reliable ratings for DPW.

6.1 Logical Affinity

The ACWM currently has a product-centric affinity based on water. The DPH could offer product-centric or function-centric affinity. The DPW would provide a client-centric affinity. Each of the alternatives could work. We give each alternative a 3, for average, on a scale of 1 to 5, where 1 is worst and 5 is best.

6.2 Services Offered

ACWM: The wide range of services that the ETL currently offers are well appreciated by its clients.

PHL and DPH: Transferring the ETL to the DPH would not significantly affect the quality or the variety of the services offered. However, the provision of the services could more easily be rationalized so that the PHL and the ETL do not both offer the same tests and have more resources to cope with variations in the volume of tests required, producing efficiencies that benefit the County.

DPW: If the ETL was transferred to the DPW and provided the same services as it does now to the same clients there would be little change. However, a demand for a wider range of testing services for the DPW is likely to open up. Over time, this could make a significant change to the mission, plans, staffing, certifications and character of the ETL.

DPW Only: If the ETL was transferred to the DPW and serviced only the DPW, the number of current matrices performed would be cut by about 10% and the variety of matrices currently performed could be cut by about 66 out of the 340 offered now. In this case, the other clients of the ETL would have to find other laboratories for their tests and the costs of the tests performed by the ETL would increase unless resources were released. However, DPW has other testing needs that could replace and increase both the volume of testing and the variety of tests so an increase in the size of the ETL is likely.

Private: If the ETL was closed and the ETL's current services provided by the PHL and private laboratories, the quality of the services may be variable but is unknown. ETL's clients may have difficulty interpreting different reports from different laboratory systems and the County's policy of sharing the work between multiple laboratories may not allow the private laboratories to develop an in-depth understanding of the requirements of the Departments. Considering the need for selecting and monitoring the performance of highly specialized laboratories, the clients of ETL may find that using private laboratories is not as convenient as using the ETL.

Ratings: For these reasons, our ratings are:

ACWM	3
PHL	4
DPH	4
DPW	3
DPW Only	2
Private	2

6.3 Financial Viability

While there are questions about whether the financial viability of the ETL should even be a criterion, the concern that we have seen about financial matters, and the efforts put into budgets and the control of purchases, indicate to us that it is a criterion of importance.

ACWM: Assuming that the ETL and its NCC would be improved by revitalization of the direction of the ETL, we still consider that the financial management and business development processes of the ETL may need improvement by the ACWM. Hence we rate the financial viability below other solutions.

PHL and DPH: The DPH and the PHL assign responsibilities for meeting budgets to the staff running the operation. The DPH and PHL also have established business development activities. These may improve the financial viability.

DPW: Moving the ETL to the DPW would be similar to moving it to the DPH, except that the client providing 90% of the required tests would have control of the finances.

DPW Only: If the ETL was serving only the DPW, ongoing financial matters are internal to the DPW. The other clients would use the PHL and private laboratories.

Private: If the tests were outsourced, each client Department would have control of the cost of its own testing and the competitive bidding process would ensure that the County is obtaining value for its expenditure on tests. The cost of outsourcing is estimated to be less than that of operating the ETL.

Ratings: We give the alternatives ratings as follows:

ACWM	2
PHL	3
DPH	3
DPW	4
DPW Only	4
Private	5

6.4 Space Considerations

PHL: The PHL does not have the space to accommodate the ETL without expensive new premises.

Private: If all of the testing is outsourced the ETL does not require any space.

All Other Alternatives: Provided that the ETL can stay in its current premises all other alternatives are rated the same.

Ratings: Our ratings are:

ACWM	3
PHL	1
DPH	3
DPW	3
DPW Only	3
Private	5

6.5 Staff Attitudes

ACWM and DPH: With both of these alternatives, the staff would remain the same. While neither department is keen to have the ETL in their organization they would be willing to accept it for the good of the County.

PHL: PHL senior management is strongly opposed to a merger with the ETL.

DPW and DPW Only: A transfer to the DPW would most likely result in a completely different ETL. The Department has officially rejected the opportunity to be responsible for the ETL. As such it is rated similarly to the PHL.

Private: Closure of the ETL would mean that most of the 18 staff would lose their jobs.

Ratings: Our ratings are:

ACWM	2
PHL	1
DPH	2
DPW	1
DPW Only	1
Private	1

6.6 Support Services

ACWM: The existing support services are adequate with the exception of IT support, which appears to be understaffed at the Department level. At the ETL, IT support is behind the times and insufficient to ensure the full operation of LIMS in a completely satisfactory manner.

PHL: If transferred to the PHL, the ETL would benefit from PHL's on-site IT support staff.

DPH: With the ETL as an independent unit we anticipate that ETL staff titles would be modernized and IT support would be improved, in line with PHL's support.

DPW and DPW only: We have not investigated the support services of DPW but expect they would be similar to those of DPH.

Private: HR, IT, maintenance, real estate, business development, and management support services would disappear. The County would still need purchasing, accounting, financial and management support for other departments using the outside laboratories.

Ratings: Our ratings are:

ACWM	2
PHL	4
DPH	3
DPW	3
DPW Only	3
Private	5

6.7 Placement of Other County Laboratories

Most of the other County laboratories are placed in the equivalent of the Department of Public Health, with one in a department of public works. Many have testing done by private laboratories. None that we know of have water testing laboratories placed in the equivalent of Agricultural Commissioner, Weights and Measures. Hence our ratings are:

ACWM	2
PHL	4
DPH	4
DPW	4
DPW Only	4
Private	3

6.8 Time and Difficulty of Implementing Change

ACWM: Revitalization of the direction of the ETL includes recruiting a Deputy Director, preparing a new vision and strategic plan, establishing business development activities, reducing the NCC, rationalizing services and negotiating with DPH to take business away from the PHL, so it will not be easy.

PHL: Increased strains on PHL management, a change of computer systems, and a different culture for the ETL staff would make the transfer more difficult than the other alternatives.

DPH: As a revitalized, independent unit in the same location, the ETL would incur major changes due to a different culture, the rationalization of services with PHL and relocation of some staff, and more work at the DPH divisional level.

DPW and DPW Only: Though different, these alternatives would be very similar in timing and difficulty to moving the ETL to the DPH. Coordination with the PHL laboratory may be not so easy but coordination may not be required.

Private: The ETL would have difficulty outplacing staff, and the County could have difficulties finding and maintaining services from other laboratories as suitable as ETL's.

Ratings: Our ratings are:

ACWM 4
PHL 2
DPH 4
DPW 4
DPW Only 4
Private 3

6.9 Summary of Ratings

The table below summarizes the ratings against the eight criteria, using a scale of 1 – 5, where 1 is worst placement and 5 is best placement.

Figure 6.1 – Summary of Ratings for Alternative Placements against Criteria

Criteria	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5	Rating 6
Scale 1-5, 1 = worst, 5 = best	ACWM	PHL	DPH	DPW	DPW only	Private
Logical Affinity	3	3	3	3	3	3
Services Offered	3	4	4	3	2	2
Financial Viability	2	3	3	4	4	5
Space Considerations	3	1	3	3	3	5
Staff Attitudes	2	1	2	1	1	1
Support Services	2	4	3	3	3	5
Placement of Other County Laboratories	2	4	4	4	4	3
Time and Difficulty of Implementing Change	4	2	4	4	4	3
Totals	**21**	**22**	**26**	**25**	**24**	**27**

It can be seen that the alternatives are very close in their ratings.

It has to be recognized that all the criteria are not of equal importance. We have not interviewed any Supervisors in order to understand how important the NCC is to the County, but using our own judgment we rate the importance of the criteria as follows:

Services offered to clients is rated most important, which is a weighting of 5.

Financial viability, space considerations and staff attitudes are rated next most important, with a weighting of 4.

Support services, the placement of other county laboratories and the time and difficulty of implementing change are considered less important and weighted a 3.

Logical affinity, on which all alternatives are rated equal, is considered least important and weighted a 2.

When the ratings above are weighted, the ratings table becomes as shown below:

Figure 6.2 – Summary of Weighted Ratings for Alternative Placements

Criteria Scale 1-5, 1 = worst, 5 = best	Weight	Weighted ACWM	Weighted PHL	Weighted DPH	Weighted DPW	Weighted DPW only	Weighted Private
Logical Affinity	2	6	6	6	6	6	6
Services Offered	5	15	20	20	15	10	10
Financial Viability	4	8	12	12	16	16	20
Space Considerations	4	12	4	12	12	12	20
Staff Attitudes	4	8	4	8	4	4	4
Support Services	3	6	12	9	9	9	15
Placement of Other County Laboratories	3	6	12	12	12	12	9
Time and Difficulty of Implementing Change	3	12	6	12	12	12	9
Totals		73	76	91	86	81	93

It can be seen that the alternatives divide into three groups. Those with ratings in the 90's:

1. Private — Outsource the testing to private laboratories
2. DPH — Keep the PHL and ETL separate but transfer ETL to the DPH.

Those with ratings in the 80's:

1. DPW — Transfer the ETL to the DPW and offer services to all clients
2. DPW Only — Transfer the ETL to the DPW for use only by DPW.

Those with ratings in the 70's:

1. ACWM Keep the ETL in the ACWM
2. PHL Merge the ETL with the PHL.

Considering the accuracy of the subjective ratings and weightings, the alternatives in each group should be considered equal.

7. RECOMMENDATIONS

Based on the above weighted comparative ratings, our placement recommendation is either to:

1. Transfer ETL's microbiology testing to the PHL and outsource the remainder of the testing to laboratories outside the County, or

2. Transfer the ETL to the DPH as an independent unit, not merged with the PHL.

If the decision is to outsource the work of the ETL, the ACWM will also have to decide whether it uses the expertise of the ETL to assist its clients to find other suitable laboratories, or whether it simply tells the ETL's clients that the ETL is closing on a particular date.

Should the decision be to transfer the ETL to the DPH, we recommend that the Board of Supervisor's designate the DPH to do all the water testing for the County and direct all County Departments that need to test water to have their water tested by DPH, either at the PHL or the ETL, depending on the nature of the tests.

Details of actions to be taken are provided in the next section of this report.

8. INITIAL ACTION PLANS

The initial actions will depend on whether the Board of Supervisors decides to terminate the operations of the ETL, or transfer the ETL to the DPH.

8.1 Outsource the Work of the ETL

Following a Board decision to outsource ETL's services and transfer the microbiology testing from the ETL to the PHL, it may be difficult to continue the full operation of the ETL if staff leave for other jobs. Steps will need to be taken to mitigate the displacement of staff. Clients of the ETL will immediately know the Board's decision and will need to know as soon as possible what arrangements can be made to continue their necessary tests.

Clients, such as the DPW, with established relationships with other laboratories may be able to transfer their work to the other laboratories quickly. Others may need to go through a procurement process that could take many months. The most controlled procedure would be for the ETL to start outsourcing the analyses to other laboratories before recommending to clients other laboratories that they could use.

In regard to the transfer of the microbiology testing to the PHL, the PHL will need time to accommodate an additional 12,000 matrices per year from the ETL on top of the approximately 5,000 per year that it currently performs on water. As explained in Section 5.2.4 on page 48, the water testing laboratory at the PHL occupies about 500 square feet. This would need to be expanded to take on additional tests and staff, and this would take some time. There is therefore a probability that some of the microbiology testing revenue will be lost to the County as clients may find other suitable laboratories before the PHL is ready to take on much additional work.

8.2 Transfer the ETL as a Unit to the DPH

Following a Board decision to transfer the ETL from the ACWM to the DPH, the actions that need to be taken are:

1. Communicate the Board's decisions to the staff and all the clients of the ETL.

2. Have the CEO, ACWM and the DPH make decisions regarding the:

   - ETL's NCC and whether the ACWM will carry the NCC or transfer it to the DPH
   - continued use of the ETL's current building when the ETL is in the DPH, including the use of parts of the building not currently occupied by ETL.

3. Develop a new mission statement and strategic plan for the ETL.

The new mission statement and strategic plan should be based on ETL's role being to:

- direct the County's environmental toxicology testing of water
- manage the resources and projects relating to the County's environmental toxicology testing
- provide expert counsel and services related to environmental toxicology testing for each County department and across all departments.

The strategic plan should address the critical areas of:

i. Public Responsibility
ii. Customer Service
iii. Quality of Services
iv. Financial and Physical Resources
v. Innovation
vi. Growth
vii. Productivity
viii. Manager Performance and Development
ix. Staff Performance and Attitude
x. Net County Cost.

Key Performance Indicators (KPI) should be established and a means of measuring and tracking performance against the key indicators established.

4. Have the PHL and the ETL work closely together to avoid overlapping services and to provide a "one-stop shop" for comprehensive water testing for their clients, which includes sending out uneconomic tests to other laboratories that specialize in the tests They should advise the Director of the Communicable Disease Control and Prevention Division on:

   - which tests each laboratory should do so that tests are performed most efficiently
   - how resources should be redistributed to perform the tests
   - how any additional certifications required will be obtained
   - the plans and timescale for effecting the changes.

5. Set up the ETL within the DPH organization, establishing to whom the ETL will report and the planned structure of the ETL, taking account of services to be offered and future staffing.

6. Adopt a new pricing strategy and revise the fee rates that ETL charges.

7. Set up the administration, accounting and financial systems for the ETL within the DPH.

8. Initiate business development activities within the County and with other public organizations in order to reach a volume of business that can be accommodated in the existing facility and which minimizes the ETL's NCC.

9. Modernize the premises occupied by ETL. Our recommendations for the possible refurbishment of the building are set out in Section 5.4.ii, page 27.

10. Initiate recruitment of a Deputy-Director, or ETL Director, to lead the ETL. As the recruitment of a suitable ETL Director may take an extended period of time, the actions above should be started by setting up a Project Office to carry out the work.

9. REPORT CONCLUSION

We recognize that more analysis could and should be done for management purposes, but we believe that the above analysis has been sufficient to prepare a recommendation for the placement of the ETL.

We wish to thank all the people who contributed to this study, and, in particular, Dr. Robert Kim-Farley, the Project Manager, for his guidance.

For CGR Management Consultants

J. K. Kennedy, Ph.D.
Principal and Member

APPENDIX I – PEOPLE INTERVIEWED

During the course of the study the following people contributed information personally:

Department of Public Health (DPH)
1. Dr. Jonathan Fielding, Director
2. Ms. Cynthia Harding, Chief Deputy Director

DPH, Communicable Disease Control and Prevention Division

3. Dr. Robert Kim-Farley, Director, Project Manager
4. Maureen Quraishi, Senior Administrative Officer

DPH, Communicable Disease Control and Prevention Division, Public Health Laboratory

5. Dr. J. Michael Janda, Director
6. Dr. Nicole Green, Assistant Director
7. Ernesto Ablang, Information Techology Supervisor I
8. Jeffrey Antig, Med Tech II
9. Eric Clark, PH Scientist III
10. Mary Beth Duke, Laboratory Manager
11. Antony LaPenna, PH Scientist III
12. Michael Stephens, PH Microbiology Supervisor I
13. Joan Sturgeon, Bacteriology Technical Support, Microbiology Supervisor II
14. Dr. Robert Tran, BT/CT, Microbiology Supervisor II
15. Alon Volner, Chief Chemist

DPH, Environmental Health

16. Angelo Bellomo, Director
17. Dr. Cyrus Rangan, Director, Bureau of Toxicology and Environmental Assessment
18. Charlene Contreras, Manager, Emergency Preparedness and Response
19. Bernard Franklin, Environmental Health Water Quality and Waste Management
20. Michael Jordan, Environmental Health Emergency Preparedness and Response
21. Becky Valenti, Environmental Health Water Quality and Waste Management
22. Aura Wong, Environmental Health Services Manager

Agricultural Commissioner / Weights and Measures (ACWM)

23. Kurt Floren, Agricultural Commissioner/Director of Weights and Measures
24. Richard Iizuka, Chief Deputy Director
25. Alycia Araya, Chief, Administrative Services Bureau
26. Sharon Butterworth, Division Head, Budget & Fiscal Services
27. Scott Hunter, Information Systems Supervisor III

ACWM Environmental Toxicology Laboratory

28. Dr. Thant Win, Chief, Environmental Toxicology Laboratory
29. William Chen, Supervising Toxicologist, Inorganic Testing/Field Section
30. Maggie Xuan, Supervising Toxicologist, Organic/Microbiology Testing Section
31. Kamilia Salama, Laboratory Assistant

32. Lillie Sanchez, Laboratory Assistant

CEO's Office

33. Richard Martinez, Budget Analyst

Internal Services Department

34. Tim Braden, General Manager, Facilities Operations Service
35. Cesar Menchaca, Division Manager, Alterations & Improvements Division
36. Manuel Hernandez, Manager II, Alterations & Improvements

Department of Public Works, Waterworks Division

37. Adam Ariki, Assistant Deputy Director
38. Dr. T. J. Kim, Senior Civil Engineer, Waterworks Division
39. Daniel Lafferty, Assistant Division Engineer

Other

40. Dr. Wasfy Shindy, past Deputy Director of the ETL

APPENDIX II - RAW DATA ABOUT TESTS PERFORMED BY THE ETL

This appendix contains raw data used to assess the ETL. It has:

- A list of the pricing methods and the number of matrices performed for each method each year for the four years 2006/7 to 2008/9 and 2010/11. The year 2009-10 was excluded because of possible inaccuracies due to implementation of the Laboratory Information Management System (LIMS).
- The number of each matrix performed each month from November 1, 2011 to October 31, 2012, taken from a LIMS report.
- The number of each matrix performed for each client from November 1, 2011 to October 31, 2012, taken from a LIMS report.
- Annual budgets and actuals, revenues and expenditures figures.
- A list of ETL's current Group III fee rates and the draft new fee rates currently awaiting approval, plus fee rates from other laboratories.

Pricing Methods and the Number of Matrices Performed (2 pages)

		Total # of Matrices in 4 of 5 of the Past Fiscal Years								
	TEST	METHOD	Matrix	2006-07	2007-08	2008-09	2010-11	Total Average	% Change 06-07 to 10-11
1	Alkalinity Total	SM 2320B	DW/WW	106	160	135	144	136.25	35.8%
2	Metal-Each(Dissolve)	Metal	DW	3497	3771	2853	5418	3884.75	54.9%
3	Metal-Each(Total)	Metal	WW	4056	5356	3053	1893	3589.5	-53.3%
4	Ammonia (Calculation)	Calculation	DW/WW	190	200	210	201	200.25	5.8%
5	Ammonia Nitrogen-D	SM 4500-NH3 D	DW	100	105	105	115	106.25	15.0%
6	Ammonia Nitrogen-W	SM 4500-NH3 D	WW	295	315	312	308	307.5	4.4%
7	BOD5/cBOD5 (SM 5210)	SM 5210	WW	363	359	216	242	295	-33.3%
8	Boron	SM 4500-B B	DW/WW	269	481	235	148	283.25	-45.0%
9	Bromide	EPA 300.0	DW/WW	72	104	101	51	82	-29.2%
10	Calcium	SM 3500 Ca B	DW/WW	84	64	95	37	70	-56.0%
11	Carbamate Pesticides (EPA 531.1)	EPA 531.1	DW/WW	45	103	76	7	57.75	-84.4%
12	Chemical Oxygen Demand-COD	SM 5220D	DW/WW	151	162	111	94	129.5	-37.7%
13	Anion-Each (F, Cl, NO2, NO3, PO4, SO4	EPA 300.0	DW/WW	2107	2383	1908	1908	2076.5	-9.4%
14	Chlorinated Pesticides (EPA 505)	EPA 505	DW/WW	2	42	7	8	14.75	300.0%
15	Chlorinated Pesticides (EPA 608)	EPA 608	WW	120	113	131	106	117.5	-11.7%
16	Chlorine, Residual	SM 4500Cl	DW/WW	5672	5190	4999	4497	5089.5	-20.7%
17	Chlorine, Total	SM 4500Cl	DW/WW	300	280	270	178	257	-40.7%
18	Chromium VI	EPA 218.6	DW/WW	69	224	115	1189	399.25	1623.2%
19	Chromium VI (Dissolve)	EPA 218.6	DW/WW	69	224	115	104	128	50.7%
20	Colilert (Bacteria Presence/Absence)	SM 9223	DW	6419	5598	4690	4927	5408.5	-23.2%
21	Color	SM 2120B	DW/WW	1933	1312	1272	1202	1429.75	-37.8%
22	Conductivity	SM 2130B	DW/WW	226	436	227	225	278.5	-0.4%
23	Copy Reports								
24	Cyanide	SM 4500-CN C, E	DW/WW	217	255	248	169	222.25	-22.1%
25	Dissolved Oxygen (SM 4500-OG)	SM 4500-OG	DW/WW	43	110	141	200	123.5	365.1%
26	E. coli (Colilert Quanti-Tray)	SM 9223	DW/WW	39	0	3	31	18.25	-20.5%
27	Enterococcus (SM 9230)	SM 9230	DW/WW	321	632	378	410	435.25	27.7%
28	Fecal Coliform (SM 9221)	SM 9221	DW/WW	524	1119	573	819	758.75	56.3%
29	Glyphosate (EPA 547)	EPA 547	DW/WW	123	103	115	101	110.5	-17.9%
30	Haloacetic Acid (EPA 552.2)	EPA 552.2	DW	325	467	472	311	393.75	-4.3%
31	Hardness	SM 2340C	DW/WW	110	160	135	185	147.5	68.2%
32	Herbicides (EPA 515.3)	EPA 515.3	DW/WW	107	115	116	102	110	-4.7%
33	Heterotrophic Plate Counts (HPC)	IDEXX SimPlate	DW/WW	492	801	434	400	531.75	-18.7%
34	HPC (Pour Plates)	SM 9215B	DW/WW	0	0	0	0	0	
35	Corrosivity/Langelier Index (Calculation)	Calculation		40	35	25	17	29.25	-57.5%
36	Lead AA Flame (Leachable)		Solid	120	60	36	17	58.25	-85.8%
37	Lead AA Flame (Paint)		Paint	360	240	120	17	184.25	-95.3%
38	Lead AA Flame (Soil)		Soil	418	287	170	247	280.5	-40.9%
39	Lead AA Flame (Solid)		Solid	0	0	0	0	0	
40	Lead AA Flame (Wipe)		Wipe	2678	1532	1482	1868	1890	-30.2%
41	Lead AA Flame (Wrapper)		Solid	60	30	25	20	33.75	-66.7%
42	Lead GFAA (Food)		Food	180	120	60	49	102.25	-72.8%
43	Lead GFAA (Other)		Solid	15	15	10	10	12.5	-33.3%
44	Log-in Sample/Receiving								
45	Magnesium	SM 3500 MG B	DW/WW	84	64	95	37	70	-56.0%
46	MBAS (Surfactant)	SM 5540C	DW/WW	245	271	219	234	242.25	-4.5%
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Pricing Methods and the Number of Matrices Performed (continued)

		Total # of Matrices in 4 of 5 of the Past Fiscal Years							
	TEST	**METHOD**	**Matrix**	**2006-07**	**2007-08**	**2008-09**	**2010-11**	**Total Average**	**% Change 06-07 to 10-11**
47	Mercury	EPA 245.1	DW/WW	478	550	220	141	347.25	-70.5%
48	Mercury (Dissolve)	EPA 245.1	DW/WW	98	160	104	94	114	-4.1%
49	Mineral Balance (Calculation)	Calculation		35	20	15	20	22.5	-42.9%
50	N.P. Containing Pesticides (EPA 507)	EPA 507	DW/WW	160	122	117	141	135	-11.9%
51	Nitrate-N (Calculation)	Calculation	DW/WW	650	556	601	126	483.25	-80.6%
52	Nitrite-N (Calculation)	Calculation	DW/WW	580	574	382	126	415.5	-78.3%
53	Odor	SM 2150B	DW/WW	1952	1312	1272	1202	1434.5	-38.4%
54	Oil and Grease (EPA 1664A)	EPA 1664A	WW	177	188	242	264	217.75	49.2%
55	Organic Nitrogen (Calculation)	Calculation		221	230	255	203	227.25	-8.1%
56	Perchlorate	EPA 314.0	DW/WW	15	101	107	53	69	253.3%
57	Pesticides (Carbamate) MRS-CB	CDFA 691	Produce	0	0	2	30	8	
58	Pesticides (Chlorinated) CH-Wipe	CDFA 691	Wipe	0	3	0	11	3.5	
59	Pesticides (Chlorinated) MRS-CH	CDFA 691	Produce	0	0	0	12	3	
60	Pesticides (Organophosphate)MRS-OP	CDFA 691	Produce	5	5	14	12	9	140.0%
61	Pesticides (Pyrethroids) MRS-PY	CDFA 691	Produce	0	0	0	12	3	
62	Pesticides (Pyrethroids) PY-Wipe	CDFA 691	Wipe	29	13	19	0	15.25	-100.0%
63	pH	SM 4500 HB	DW/WW	1388	1137	870	1506	1225.25	8.5%
64	Phenolic	EPA 420.1	DW/WW	76	110	139	141	116.5	85.5%
65	Potassium	SM 3500 K-D	DW/WW	84	139	113	21	89.25	-75.0%
66	Semi-Volatile Organic Compounds	EPA 625	WW	123	176	155	117	142.75	-4.9%
67	Settle Solids (mg/L) (Inc. TSS)	SM 2540F	DW/WW	0	0	0	0	0	
68	Settle Solids (mL/L)	SM 2540F	DW/WW	5	5	5	6	5.25	20.0%
69	Sodium	SM 3111B	DW/WW	84	139	113	30	91.5	-64.3%
70	Streptococus (SM 9230)	SM 9230	DW/WW	165	490	283	220	289.5	33.3%
71	THM, GC/MS (EPA 524.2) + MTBE	EPA 524.2	DW/WW	741	895	801	792	807.25	6.9%
72	TOC/DOC (SM 5310)	SM 5310	DW/WW	226	288	221	198	233.25	-12.4%
73	Total Coliform (SM 9221)	SM 9221	DW/WW	565	1126	574	608	718.25	7.6%
74	Total Dissolved Solids-TDS	SM 2540	DW/WW	506	701	498	572	569.25	13.0%
75	Total Kjeldahl Nitrogen	SM 4500	DW/WW	180	160	124	417	220.25	131.7%
76	Total Nitrogen (Calculation)	Calculation		180	160	124	417	220.25	131.7%
77	Total Petroleum Hydrocarbon (TPH)	EPA 418.1	WW	51	110	143	141	111.25	176.5%
78	Total Phosphate	SM 4500 PE	DW/WW	174	195	142	143	163.5	-17.8%
79	Total Phosphate (Dissolve)	SM 4500 PE	DW/WW	145	160	104	94	125.75	-35.2%
80	Total Suspended Solids-TSS	SM 2540D	DW/WW	468	529	823	534	588.5	14.1%
81	TPH (State Draft Method 815)	State Draft M815	Soil	0	0	0	0	0	
82	Turbidity	SM 2130B	DW/WW	2196	1538	1382	1575	1672.75	-28.3%
83	Volatile Organic Compounds (VOC)	EPA 524.2/624	DW/WW	122	99	238	193	163	58.2%
84	Volatile Suspended Solids	SM 2540	WW	98	160	104	94	114	-4.1%
85	Temperature	SM 2550	DW/WW	262	271	253	262	262	0.0%
86	Taste	SM 2160	DW	6	3	2	0	2.75	-100.0%
87	Sulfide	SM4500SE	DW/WW	61	2	9	3	18.75	-95.1%
	Totals			**44,952**	**45,825**	**36,663**	**38,777**	**41,554**	
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	Note: 2009-10 is the transition year for LIMS and is not be included due to possible inaccuracies.								

CGR MANAGEMENT CONSULTANTS

Number of Each Matrix Performed Each Month (5 pages)

	Month	All Customers	Analysis Code	Analysis Description	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12	Avge / Month	Max / Month
1	Jul12	DW - Drinking Water	100.2ASB-D	Asbestos,E100.2,Drinking Water			2	1	1	1		2	1				8	1	2
2	Sep12	DW - Drinking Water	1613B-D	Dioxin TCDD EPA 1613 B, DWater				1		5	3	4	3	2	4		22	3	5
3	Jun12	DW - Drinking Water	2007SIL-W	Silica EPA 200.7,Water					1			2					3	2	2
4	Jun12	DW - Drinking Water	2120COL-W	Color SM2120 B ,Water	122	102	107	124	96	120	119	92	127	132	92	118	1351	113	132
5	Jun12	DW - Drinking Water	2120ODR-W	ODOR SM 2150 B,Water	122	102	107	124	96	119	118	91	112	131	93	117	1332	111	131
6	Jun12	DW - Drinking Water	2130TUR-W	SM 2130B Turbidity, Water	124	108	117	133	105	128	130	101	136	147	110	139	1478	123	147
7	Jun12	DW - Drinking Water	218CHR6-W	Chromium VI,Water			3		1			3					7	2	3
8	Jul12	DW - Drinking Water	218DCHR6-W	Chromium VI, Dissolved, Water								4	1				5	3	4
9	Sep12	DW - Drinking Water	2340HARD-W	Hardness SM2340 C,Water				1				2			3		6	2	3
10	Sep12	DW - Drinking Water	245.1HG-W	Mercury,E245.1,Water			7	1	1	2		5	5		2		23	3	7
11	Oct12	DW - Drinking Water	2540-TDS-W	TDS SM2540C, Water	5	7	18	10	9	11	11	12	12	9	13	12	129	11	18
12	Oct12	DW - Drinking Water	300BRO3-W	Bromate EPA 300.1,Water	2	4	6	5	5	5	8	6	5	5	6	9	66	6	9
13	Oct12	DW - Drinking Water	300CLO2-W	Chlorite EPA 300.1,Water	2	4	6	5	5	5	8	5	5	5	6	9	65	5	9
14	Sep12	DW - Drinking Water	300CL-W	Chloride Anion EPA 300.1,Water			5	2	1	2		4	4	1	3		22	3	5
15	Sep12	DW - Drinking Water	300FL-W	Fluoride Anion EPA 300.1,Water			5	2	1	2		4	4		2		20	3	5
16	Sep12	DW - Drinking Water	300NO2-W	Nitrite Anion EPA 300.1,Water			4	4	1	4	4	5	3	1	12		38	4	12
17	Oct12	DW - Drinking Water	300NO3-W	Nitrate Anion EPA 300.1,Water	22	16	21	18	31	26	28	23	23	23	24	17	272	23	31
18	Sep12	DW - Drinking Water	300PO4P-W	Phosphate Anion EPA300.1,Water			3								1		4	2	3
19	Sep12	DW - Drinking Water	300S04-W	Sulfate Anion EPA 300.1,Water			5	2	1	2		4	4	1	3		22	3	5
20	Oct12	DW - Drinking Water	314CL4-W	Perchlorate EPA 314.0,Water			4	4	5	5		3				3	24	4	5
21	Jul12	DW - Drinking Water	3500CAMG	Hardness,Ca, Mg,Water			2	1	1	2		2	4				12	2	4
22	Sep12	DW - Drinking Water	3500CA-W	Calcium SM 3500 CA B ,Water				1	1			2			3		7	2	3
23	Sep12	DW - Drinking Water	3500K-D	Potassium SM3500 K D, D						1					1		2	1	1
24	Jun12	DW - Drinking Water	3500K-W	Potassium SM3500 K D ,W			2	2	1	1		2					8	2	2
25	Sep12	DW - Drinking Water	3500MG-W	Magnesium SM 3500 MG B ,Water				1				2			3		6	2	3
26	Jun12	DW - Drinking Water	3500NA-D	Sodium SM 3500 NA D, D						1		1					2	1	1
27	Sep12	DW - Drinking Water	3500NA-W	Sodium SM 3500 NA D ,W			2	2	1	1		4	4		2		16	2	4
28	Aug12	DW - Drinking Water	4500BOR-W	BORON, Water			2	2	1			2		1			8	2	2
29	Oct12	DW - Drinking Water	4500CHL-W	Chlorine SM4500-CLTotal Water								1	1	1	1	1	5	1	1
30	Jun12	DW - Drinking Water	4500FCHL-W	FieldChlorine SM4500-CL,Total	350	308	381	345	322	364	357	307	385	360	322	394	4195	350	394
31	Oct12	DW - Drinking Water	4500-OG-W	SM 4500-O.G, DO Water	2	4	6	5	5	5	8	5	7	5	6	9	67	6	9
32	Jun12	DW - Drinking Water	4500-PH-W	SM4500 PH, Water	105	95	106	89	89	96	98	99	106	92	91	114	1180	98	114
33	Sep12	DW - Drinking Water	504.1-D	EPA Method 504.1 , DW	1			5	1	2	3	7	1	2	4		26	3	7
34	Sep12	DW - Drinking Water	505-OHPA-D	EPA Method 505 , DW			3	4	1	2	9	7	1	2	4		33	4	9
35	Oct12	DW - Drinking Water	507-NPHP-D	EPA 507 Herbicide Pesticide				21	2	2	3	17	5	3	13	3	69	8	21
36	Sep12	DW - Drinking Water	507-NPP-D	EPA 507 N/P Pesticides			2	4	1	2	3	7	1	1	6		27	3	7
37	Sep12	DW - Drinking Water	515.3CHA-D	515.3 Chlorinated Acids-DW				4	1	2	3	7	1	2	4		24	3	7
38	Sep12	DW - Drinking Water	524.2FUL-D	EPA 524.2 Volatiles GCMS		3	8	1	8	14	14	5	25	14	15		107	11	25
39	Jun12	DW - Drinking Water	524.2GAD-D	GAD EPA 524.2, Drinking Water			2		1			2					5	2	2
40	Aug12	DW - Drinking Water	524.2SIM-D	EPA 524.2SIM 1,2,3-TCP , DW	4			4	1		4	2		4			19	3	4
41	Oct12	DW - Drinking Water	524.2THM-D	EPA 524.2 THM List, Drinking W	48	40	49	52	34	40	38	29	29	48	13	45	465	39	52
42	Sep12	DW - Drinking Water	524MTBE-D	EPA Method 524 MTBE GCMS, DW								2			3		5	3	3
43	Sep12	DW - Drinking Water	525.2FL-D	EPA 525.2 SOC Full List, DW											1		1	1	1
44	Oct12	DW - Drinking Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW				24	4	2	3	16	1	3	13	3	69	8	24
45	Sep12	DW - Drinking Water	531.1CBM-D	Carbamates EPA 531.1, DW				4	1	2	3	7	1	2	4		24	3	7
46	Oct12	DW - Drinking Water	5310TOC-W	TOC SM 5310 B,Water	2	4	8	5	5	5	8	5	5	5	6	9	67	6	9
47	Aug12	DW - Drinking Water	547GLY-D	Glyphosate EPA 547, DW				1	1			3	1	4			10	2	4
48	Aug12	DW - Drinking Water	547GLY-W	Glyphosate EPA 547, Water										5			5	5	5
49	Sep12	DW - Drinking Water	548-D	Endothall EPA 548, DWater				4	1	2	3	6		2	4		22	3	6
50	Sep12	DW - Drinking Water	549.2-D	Diquat & Paraquat EPA549.2, DW				4	1	2	3	6		2	4		22	3	6
51	Oct12	DW - Drinking Water	552.2FUL-D	HAA Full List, 552.2, DW	20	11	41	24	5	36	26	17	26	30	10	30	276	23	41
52	Sep12	DW - Drinking Water	5540MBAS-W	MBAS, Water			4	2	1	2		5	5		1		20	3	5
53	Sep12	DW - Drinking Water	625-W	EPA Method 625, Water		3	3	3		2	3	4		2	4		24	3	4
54	Jun12	DW - Drinking Water	8015MDSL-D	Diesel EPA 8015M,DrinkingWater					1			2					3	2	2
55	Jun12	DW - Drinking Water	8015MGSL-D	Gasoline EPA 8015M, DW					1			2					3	2	2
56	Sep12	DW - Drinking Water	900ALPHA-W	Gross Alpha EPA 900.0, Water	1	2	3	1	2	8	1	6	6	4	11		45	4	11
57	Mar12	DW - Drinking Water	900BETA-W	Gross Beta EPA 900.0, Water					1								1	1	1
58	Sep12	DW - Drinking Water	903RAD226W	Total Alpha Rad EPA 903.0Water	1	2	3	1	2	8	1	5	6	4	10		43	4	10
59	Sep12	DW - Drinking Water	908URA-W	Uranium EPA 908 , Water	1	2	3	1	2	8	2	6	6	4	12		47	4	12
60	Oct12	DW - Drinking Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D										1		1	2	1	1
61	Oct12	DW - Drinking Water	9221TCLI-D	SM9221B, Total Coliform MTF, D										1		1	2	1	1
62	Aug12	DW - Drinking Water	9230-ENT-D	Enterococcus, SM 9230B, DW										1			1	1	1
63	Sep12	DW - Drinking Water	AG-200.8-D	Silver, 200.8, Dissolved			8	1	1	2		4	4		2		22	3	8
64	Sep12	DW - Drinking Water	AL-200.8-D	Aluminum, 200.8, Dissolved			8	1	1	2		5	5		2		24	3	8
65	Sep12	DW - Drinking Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW			2	2	1	2		4	4	4	1		20	3	4
66	Sep12	DW - Drinking Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW			2	2	1	2		4	4	4	1		20	3	4
67	Sep12	DW - Drinking Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW			2	2	1	2		4	4	4	1		20	3	4
68	Sep12	DW - Drinking Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW			2	2	1	2		4	4	4	2		21	3	4
69	Jun12	DW - Drinking Water	AS-200.8-D	Arsenic, 200.8, Dissolved	40	37	54	49	43	56	51	63	80	63	67	76	679	57	80
70	Sep12	DW - Drinking Water	ASTM-D5504	D5504 Reduced Sulfur Analysis											2		2	2	2
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CGR MANAGEMENT CONSULTANTS

	Month	All Customers	Analysis Code	Analysis Description	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12	Avge / Month	Max / Month
71	Sep12	DW - Drinking Water	BA-200.8-D	Barium, 200.8, Dissolved			8	1	1	2		5	5		1		**23**	**3**	**8**
72	Sep12	DW - Drinking Water	BE-200.8-D	Beryllium, 200.8, Dissolved			5	1	1	2		4	4		1		**18**	**3**	**5**
73	Sep12	DW - Drinking Water	CD-200.8-D	Cadmium, 200.8, Dissolved			8	1	1	2		5	5		1		**23**	**3**	**8**
74	Sep12	DW - Drinking Water	CN4500E-W	Cyanide, SM4500-CN E, Water			2	1	1	18	19	13	16	6	4		**80**	**9**	**19**
75	Jul12	DW - Drinking Water	CO-200.8-D	Cobalt, 200.8, Dissolved								1	1				**2**	**1**	**1**
76	Oct12	DW - Drinking Water	COND-2510	Conductivity, SM2510B, Water	2	4	11	7	6	7	8	9	9	5	9	9	**86**	**7**	**11**
77	Sep12	DW - Drinking Water	CR-200.8-D	Chromium, 200.8, Dissolved			8	1	1	2		5	5		1		**23**	**3**	**8**
78	Sep12	DW - Drinking Water	CU-200.8-D	Copper, 200.8, Dissolved	4		18	1	1	2		16	70	21	2		**135**	**15**	**70**
79	Oct12	DW - Drinking Water	ECLI18QT-D	SM9223 E. coli Colilert18QT, D	1	4	14	4	4	2	4	15	4	11	12	14	**89**	**7**	**15**
80	Jul12	DW - Drinking Water	ECLI24QT-D	SM9223 E. coli Colilert24QT, D	1		2			2			2				**7**	**2**	**2**
81	Jun12	DW - Drinking Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A	370	330	423	372	340	328	397	349	442	395	349	440	**4535**	**378**	**442**
82	Oct12	DW - Drinking Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A	13	13	9	7	49	88	5		7	5	5	10	**211**	**19**	**88**
83	Oct12	DW - Drinking Water	FE-200.8-D	Iron, 200.8, Dissolved		3	8	1	4	3	1	7	18	6	5	1	**57**	**5**	**18**
84	Oct12	DW - Drinking Water	HPC-SIM-D	HPC, Idexx Simplate, DW	26	11	25	42	13	30	31	9	26	47	12	21	**293**	**24**	**47**
85	Jun12	DW - Drinking Water	LANGELIER	Langelier Index Calculation			2		1	1		2					**6**	**2**	**2**
86	Oct12	DW - Drinking Water	LEAD-DW	Lead in Drinking Water,SM3113B	10	16	6	32	18	16	12	24	24	24	22	14	**218**	**18**	**32**
87	Oct12	DW - Drinking Water	MN-200.8-D	Manganese, 200.8, Dissolved			8	1	1	3	1	5	5	1	3	1	**29**	**3**	**8**
88	Jul12	DW - Drinking Water	MO-200.8-D	Molybdenum, 200.8, Dissolved								1	1				**2**	**1**	**1**
89	Sep12	DW - Drinking Water	NH3-4500-D	Ammonia,SM4500D,Drinking Water									2	4	5		**11**	**4**	**5**
90	Aug12	DW - Drinking Water	NH3N-4500D	Ammonia-N,4500,Drinking Water										4			**4**	**4**	**4**
91	Sep12	DW - Drinking Water	NI-200.8-D	Nickel, 200.8, Dissolved			5	1	1	2		5	5		1		**20**	**3**	**5**
92	Jun12	DW - Drinking Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	0		1	2	1	2	3	5	0				**14**	**2**	**5**
93	Aug12	DW - Drinking Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	4	7	8	8	7	8	8	5		1			**56**	**6**	**8**
94	Aug12	DW - Drinking Water	PB-200.8-D	Lead, 200.8, Dissolved	4		16	1	1			14	66	21			**123**	**18**	**66**
95	Sep12	DW - Drinking Water	RA228-W	Radium 228 EPA RA-05, Water	1	2	3	1	2	8	1	5	6	4	10		**43**	**4**	**10**
96	Sep12	DW - Drinking Water	RSK-175-D	Diss Methane,Ethane,Ethylene				1			4				3		**8**	**3**	**4**
97	Sep12	DW - Drinking Water	SB-200.8-D	Antimony, 200.8, Dissolved			5	1	1	2		5	5		1		**20**	**3**	**5**
98	Sep12	DW - Drinking Water	SE-200.8-D	Selenium, 200.8, Dissolved			8	1	1	2		5	5		1		**23**	**3**	**8**
99	Oct12	DW - Drinking Water	TCLI18QT-D	SM9223 Total Coliform Clt18QTd		4	14	4	4	2	4	15	4	9	4	6	**70**	**6**	**15**
100	Jul12	DW - Drinking Water	TCLI24QT-D	SM9223 Total Coliform Clt24QTd			2			2			2				**6**	**2**	**2**
101	Jun12	DW - Drinking Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A	370	330	423	372	340	328	397	349	442	395	349	440	**4535**	**378**	**442**
102	Oct12	DW - Drinking Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A	13	13	9	7	49	88	5		7	5	5	10	**211**	**19**	**88**
103	Oct12	DW - Drinking Water	TEMP	Temperature	19	10	4	40	12	28	31	8	11	53	12	23	**251**	**21**	**53**
104	Sep12	DW - Drinking Water	TL-200.8-D	Thallium, 200.8, Dissolved			5	1	1	2		5	5		1		**20**	**3**	**5**
105	Jul12	DW - Drinking Water	V-200.8-D	Vanadium, 200.8, Dissolved					1			1	1				**3**	**1**	**1**
106	Sep12	DW - Drinking Water	ZN-200.8-D	Zinc, 200.8, Dissolved			8	1	1	2		4	4		2		**22**	**3**	**8**
107	Oct12	FD - Food	LEAD-F<25	Lead in Food < 25 grams, E7421	3	1	9	7	1	3	1	9	5	3	30	3	**75**	**6**	**30**
108	Aug12	FD - Food	LEAD-S	Lead in Solid, E7420						1		5		1			**7**	**2**	**5**
109	Jun12	FD - Food	MRS-CB	MRS N-Methylcarbamate Pest.								5					**5**	**5**	**5**
110	Jun12	FD - Food	MRS-CH	MRS Organohalogen Pesticide								5					**5**	**5**	**5**
111	Jun12	FD - Food	MRS-OP	MRS Organophosphate Pesticide								5					**5**	**5**	**5**
112	Jun12	FD - Food	MRS-PY	MRS Pyrethroids Pesticide								5					**5**	**5**	**5**
113	Jun12	FD - Food	SO3-AOAC-F	Sulfite,AOAC 961.09,Food								1					**1**	**1**	**1**
114	Sep12	MI - Miscellaneous	LEAD-F<25	Lead in Food < 25 grams, E7421				6							1		**7**	**4**	**6**
115	Oct12	MI - Miscellaneous	LEAD-S	Lead in Solid, E7420			6	6				2			1	1	**16**	**3**	**6**
116	Oct12	MI - Miscellaneous	LEAD-WRAP	Lead in Wrapper, AOAC			1	2				4	1		8	2	**18**	**3**	**8**
117	May12	O - Others	245Hg-S	Mercury, SW							5						**5**	**5**	**5**
118	Nov11	O - Others	691PY-Soil	Pyrethroids Scan, Soil	1												**1**	**1**	**1**
119	Jul12	O - Others	LEAD-S	Lead in Solid, E7420							6		2				**8**	**4**	**6**
120	Jul12	P - Paint	LEAD-PC	Lead in Paint Chips,E7420									3				**3**	**3**	**3**
121	Oct12	PC - Paint Chip	LEAD-PC	Lead in Paint Chips,E7420	1	2		1			4	2	1		1	3	**15**	**2**	**4**
122	Mar12	PL - Plant	MRS-CB	MRS N-Methylcarbamate Pest.					4								**4**	**4**	**4**
123	Jun12	SO - Soil	245Hg-S	Mercury, SW	2							6					**8**	**4**	**6**
124	Jun12	SO - Soil	300NO3-S	Nitrate EPA 300.0, Soil	2							2					**4**	**2**	**2**
125	Jun12	SO - Soil	3050Ag-S	Silver, EPA 7761, Solid								4					**4**	**4**	**4**
126	Jun12	SO - Soil	3050AL-S	Aluminum, EPA 3113 B, Solid								4					**4**	**4**	**4**
127	Jun12	SO - Soil	3050As-S	Arsenic, EPA 7060A, Solid	2							6					**8**	**4**	**6**
128	Jun12	SO - Soil	3050Ba-S	Barium, EPA 7081, Solid								4					**4**	**4**	**4**
129	Jun12	SO - Soil	3050Be-S	Beryllium, EPA 7091, Solid								4					**4**	**4**	**4**
130	Jun12	SO - Soil	3050Cd-S	Cadmium, EPA 7130, Solid	2							6					**8**	**4**	**6**
131	Jun12	SO - Soil	3050Cu-S	Copper, EPA 7210, Solid	2							6					**8**	**4**	**6**
132	Jun12	SO - Soil	3050Fe-S	Iron EPA 7380, Solid								4					**4**	**4**	**4**
133	Jun12	SO - Soil	3050Mn-S	Manganese , EPA 7460, Solid								4					**4**	**4**	**4**
134	Jun12	SO - Soil	3050Mo-S	Molybdenum EPA 7481, Solid	2							6					**8**	**4**	**6**
135	Jun12	SO - Soil	3050Ni-S	Nickel, EPA 7520, Solid	2							6					**8**	**4**	**6**
136	Jun12	SO - Soil	3050Pb-S	Lead EPA 7420, Solid	2							6					**8**	**4**	**6**
137	Jun12	SO - Soil	3050Sb-S	Antimony, EPA 7041, Solid								4					**4**	**4**	**4**
138	Jun12	SO - Soil	3050Se-S	Selenium EPA 7740, Solid	2							6					**8**	**4**	**6**
139	Jun12	SO - Soil	3050Tl-S	Thallium, EPA 7841, Solid								4					**4**	**4**	**4**
140	Jun12	SO - Soil	3050V-S	Vanadium, EPA 7911, Solid								4					**4**	**4**	**4**
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	Month	All Customers	Analysis Code	Analysis Description	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12	Avge / Month	Max / Month
141	Jun12	SO - Soil	3050Zn-S	Zinc, EPA 7950, Solid	2							6					**8**	**4**	**6**
142	Jun12	SO - Soil	4500KNO-S	Organic Nitrogen SM4500, Soil	2							2					**4**	**2**	**2**
143	Nov11	SO - Soil	691PY-Soil	Pyrethroids Scan, Soil	1												**1**	**1**	**1**
144	Jun12	SO - Soil	KN-4500-S	Kjeldahl-N, SM4500org C, Soil								2					**2**	**2**	**2**
145	Oct12	SO - Soil	LEAD-S	Lead in Solid, E7420	10	12	12	28	18	9	19	17	16	36	31	36	**244**	**20**	**36**
146	Jun12	SO - Soil	NH3-4500-S	Ammonia,4500, Soil	2							2					**4**	**2**	**2**
147	Jun12	SO - Soil	NH3N-4500S	Ammonia-N, SM4500, Soil	2							2					**4**	**2**	**2**
148	Jun12	SO - Soil	NO3-N-S	Nitrate-N Anion EPA 300.1,Soil	2							2					**4**	**2**	**2**
149	Oct12	WA - Water	1623-W	Giardia EPA 1623, Water												1	**1**	**1**	**1**
150	Jul12	WA - Water	1625-NDMA	NDMA, EPA 1625CM, Water	2				1		2		2				**7**	**2**	**2**
151	Oct12	WA - Water	1664-W	Oil & Grease EPA 1664 A, Water	51	10	44	2	37	28	4	9	11	5		23	**224**	**20**	**51**
152	Oct12	WA - Water	2130TUR-W	SM 2130B Turbidity, Water	43	15	39	13	27	35	10	9	11	2	1	24	**229**	**19**	**43**
153	Oct12	WA - Water	218CHR6-W	Chromium VI,Water	22		26		7			4				15	**74**	**15**	**26**
154	Oct12	WA - Water	218DCHR6-W	Chromium VI, Dissolved, Water	22		26		7							15	**70**	**18**	**26**
155	Oct12	WA - Water	2340HARD-W	Hardness SM2340 C,Water	35		26		14	1		8		4		15	**103**	**15**	**35**
156	Oct12	WA - Water	245.1DHG-W	Mercury,E245.1,Dissolved Water	22		26		7			4				18	**77**	**15**	**26**
157	Oct12	WA - Water	245.1HG-W	Mercury,E245.1,Water	22		26		7			4				18	**77**	**15**	**26**
158	Oct12	WA - Water	2540SS-W	Setteable Solids SM2540F,Water	1	1	1	1	1	1	1			1	1	1	**10**	**1**	**1**
159	Oct12	WA - Water	2540-TDS-W	TDS SM2540C, Water	61	29	49	48	34	53	22	12	50	5	4	47	**414**	**35**	**61**
160	Oct12	WA - Water	2540TSS-W	TSS SM2540D, Water	57	24	54	17	40	49	15	21	14	14	8	22	**335**	**28**	**57**
161	Oct12	WA - Water	2540VSS-W	VSS SM2540 E ,Water	22		26		7							15	**70**	**18**	**26**
162	Jun12	WA - Water	300CL-W	Chloride Anion EPA 300.1,Water	59	30	50	79	**35**	203	67	187	137	172	74	248	**1341**	**112**	**248**
163	Oct12	WA - Water	300FL-W	Fluoride Anion EPA 300.1,Water	35	6	38	4	26	27		4				18	**158**	**20**	**38**
164	Oct12	WA - Water	300NO2-W	Nitrite Anion EPA 300.1,Water	64	29	50	47	38	53	22	19	55	10	4	47	**438**	**37**	**64**
165	Oct12	WA - Water	300NO3-W	Nitrate Anion EPA 300.1,Water	68	29	50	48	38	53	23	19	55	10	4	47	**444**	**37**	**68**
166	Oct12	WA - Water	300PO4P-W	Phosphate Anion EPA300.1,Water	3	3	8	7	7	3	3	8	8	3	3	9	**65**	**5**	**9**
167	Oct12	WA - Water	300S04-W	Sulfate Anion EPA 300.1,Water	58	29	49	48	34	53	22	12	50	5	4	50	**414**	**35**	**58**
168	Jul12	WA - Water	314CL4-W	Perchlorate EPA 314.0,Water	2				1		2		2				**7**	**2**	**2**
169	Apr12	WA - Water	3500CAMG	Hardness,Ca, Mg,Water	7	6	12	4	16	26							**71**	**12**	**26**
170	Aug12	WA - Water	3500CA-W	Calcium SM 3500 CA B ,Water	6				9	1		8		4			**28**	**6**	**9**
171	Jun12	WA - Water	3500K-W	Potassium SM3500 K D ,W	13	6	12	4	19	27		4					**85**	**12**	**27**
172	Jun12	WA - Water	3500MG-W	Magnesium SM 3500 MG B ,Water	6				3	1		4					**14**	**4**	**6**
173	Jun12	WA - Water	3500NA-W	Sodium SM 3500 NA D ,W	13	6	12	4	19	27		4					**85**	**12**	**27**
174	Oct12	WA - Water	418.1TPH-W	TPH, EPA 418.1, Water	47	8	42		28	28		4				21	**178**	**25**	**47**
175	Oct12	WA - Water	420PHEN-W	Phenolics EPA 420.1,Water	31		34	1	9					1		21	**97**	**16**	**34**
176	Oct12	WA - Water	4500BOR-W	BORON, Water	36	29	23	45	27	53	22	12	50	5	4	32	**338**	**28**	**53**
177	Oct12	WA - Water	4500CHL-W	Chlorine SM4500-CLTotal Water	13	11	8	15	4	10	10	8	22	4	5	14	**124**	**10**	**22**
178	Oct12	WA - Water	4500DPHO-W	Diss.Phosphate SM4500-P E, W	22		26		7							18	**73**	**18**	**26**
179	Oct12	WA - Water	4500FCHL-W	FieldChlorine SM4500-CL,Total	2	9	3	8	13	1	4	13	5	2	9	5	**74**	**6**	**13**
180	Oct12	WA - Water	4500KNO-W	Organic Nitrogen SM4500, Water	21	22	11	42	7	25	21	8	55	5	3	31	**251**	**21**	**55**
181	Oct12	WA - Water	4500-OG-W	SM 4500-O.G, DO Water	33		34		9							21	**97**	**24**	**34**
182	Oct12	WA - Water	4500PHO-W	Total Phosphate SM4500-P E, W	39	6	39	4	30	27	1	8		5		18	**177**	**18**	**39**
183	Oct12	WA - Water	4500-PH-W	SM4500 PH, Water	65	33	51	51	39	54	27	22	51	11	5	49	**458**	**38**	**65**
184	Aug12	WA - Water	4500SULF-W	Sulfide SM 4500-S E,Water	1			1						1			**3**	**1**	**1**
185	Jun12	WA - Water	505-OHPA-D	EPA Method 505 , DW								4					**4**	**4**	**4**
186	Aug12	WA - Water	507-NPHP-D	EPA 507 Herbicide Pesticide			1		17	7	21	18	3	1			**68**	**10**	**21**
187	Oct12	WA - Water	507-NPP-W	EPA 507 N/P Pesticides, Water	22		27		7		1	4		1		15	**77**	**11**	**27**
188	Oct12	WA - Water	515.3CHA-W	515.3 Chlorinated Acids-W	22		27		7		1			1		18	**76**	**13**	**27**
189	Oct12	WA - Water	5210BOD-W	B-BOD SM5210 B ,Water	34	13	36	17	13	12	14	18	19	6	7	29	**218**	**18**	**36**
190	Oct12	WA - Water	5210CBOD-W	CBOD SM5210 B ,Water									8			1	**9**	**5**	**8**
191	Oct12	WA - Water	5220COD-W	COD, Water	22		26		7			4				18	**77**	**15**	**26**
192	Jul12	WA - Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	1				17	7	20	14	3				**62**	**10**	**20**
193	Aug12	WA - Water	531.1CBM-W	Carbamates EPA 531.1, Water			1				1			1			**3**	**1**	**1**
194	Oct12	WA - Water	5310TOC-W	TOC SM 5310 B,Water	22	5	26	3	7			4				18	**85**	**12**	**26**
195	Oct12	WA - Water	547GLY-W	Glyphosate EPA 547, Water	22		27		7		1	4		3		18	**82**	**12**	**27**
196	Oct12	WA - Water	5540MBAS-W	MBAS, Water	26	3	34	8	10	3	3	12	8	4	3	21	**135**	**11**	**34**
197	Oct12	WA - Water	608-W	EPA Method 608, Water	22		27		7		1			1		15	**73**	**12**	**27**
198	Jul12	WA - Water	624MTBE-W	EPA Method 624 MTBE GCMS, W	2				1		2		2				**7**	**2**	**2**
199	Oct12	WA - Water	624-OG-W	EPA Method 624, OG List, Water	30		34		9							21	**94**	**24**	**34**
200	Jun12	WA - Water	624-W	EPA Method 624,Full List,Water	17	8					2	1					**28**	**7**	**17**
201	Apr12	WA - Water	624-WMCUST	EPA 624 Watershed Custom List			8		19	28							**55**	**18**	**28**
202	Jul12	WA - Water	624-WR-W	EPA Meth 624,WaterRsrc, Water	2				1		2	4	2				**11**	**2**	**4**
203	Oct12	WA - Water	625-W	EPA Method 625, Water	24		26		8		2	4	2			18	**84**	**12**	**26**
204	Oct12	WA - Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D	2	1	3	7	5	1	4	1	5	1	1	3	**34**	**3**	**7**
205	Oct12	WA - Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W	72	36	50	41	41	53	20	22	46	14	3	50	**448**	**37**	**72**
206	Oct12	WA - Water	9221TCLI-D	SM9221B, Total Coliform MTF, D	2	1	3	7	5	1	4	1	5	1	1	3	**34**	**3**	**7**
207	Oct12	WA - Water	9221TCLI-W	SM9221B Total Coliform MTF, W	72	36	50	41	41	53	20	22	46	14	3	50	**448**	**37**	**72**
208	Oct12	WA - Water	9230-ENT-D	Enterococcus, SM 9230B, DW	2	1	3	3	5	1	2	1	5	1	1	3	**28**	**2**	**5**
209	Oct12	WA - Water	9230-ENT-W	Enterococcus, SM 9230B, Water	66	33	42	38	38	50	17	14	38	11		43	**390**	**35**	**66**
210	Oct12	WA - Water	9230-STR-W	Streptococcus, SM 9230B, W	30		34		9			4				21	**98**	**20**	**34**
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	Month	All Customers	Analysis Code	Analysis Description	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12	Avge / Month	Max / Month
211	Oct12	WA - Water	AG-200.8-D	Silver, 200.8, Dissolved	22		26		7			4				18	77	15	26
212	Oct12	WA - Water	AG-200.8-W	Silver, 200.8, Water	22		26		7			4				18	77	15	26
213	Oct12	WA - Water	AL-200.8-D	Aluminum, 200.8, Dissolved	39	6	38	4	30	27		8		4		18	174	19	39
214	Oct12	WA - Water	AL-200.8-W	Aluminum, 200.8, Water	39	6	38		24	15		8		4		18	152	19	39
215	Aug12	WA - Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW	17	6	12	4	23	27	2	13		4			108	12	27
216	Aug12	WA - Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW	17	6	6	4	12	15	2	13		4			79	9	17
217	Aug12	WA - Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW	17	6	12	4	23	27	2	13		4			108	12	27
218	Oct12	WA - Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW	42	6	38	4	30	27	2	13		4		15	181	18	42
219	Oct12	WA - Water	AS-200.8-D	Arsenic, 200.8, Dissolved	22		27		7	1		4				19	80	13	27
220	Oct12	WA - Water	AS-200.8-W	Arsenic, 200.8, Water	22		26		7			4				18	77	15	26
221	Oct12	WA - Water	BA-200.8-D	Barium, 200.8, Dissolved	22		26		7			4				18	77	15	26
222	Oct12	WA - Water	BA-200.8-W	Barium, 200.8, Water	22		26		7			4				18	77	15	26
223	Oct12	WA - Water	BE-200.8-D	Beryllium, 200.8, Dissolved	22		26		7			4				18	77	15	26
224	Oct12	WA - Water	BE-200.8-W	Beryllium, 200.8, Water	22		26		7			4				18	77	15	26
225	Oct12	WA - Water	CD-200.8-D	Cadmium, 200.8, Dissolved	39	6	38		30	27		8		4		18	170	21	39
226	Oct12	WA - Water	CD-200.8-W	Cadmium, 200.8, Water	39	6	38		24	15	2	10		4		18	156	17	39
227	Oct12	WA - Water	CN4500E-W	Cyanide, SM4500-CN E, Water	42	8	42		21	16		8		4		21	162	20	42
228	Oct12	WA - Water	COND-2510	Conductivity, SM2510B, Water	35	11	39	7	26	27	1			1		18	165	18	39
229	Oct12	WA - Water	CR-200.8-D	Chromium, 200.8, Dissolved	22		26		7			4				18	77	15	26
230	Oct12	WA - Water	CR-200.8-W	Chromium, 200.8, Water	24		26		8		4	6	2			18	88	13	26
231	Oct12	WA - Water	CU-200.8-D	Copper, 200.8, Dissolved	39	6	38	4	30	27		8		4		18	174	19	39
232	Oct12	WA - Water	CU-200.8-W	Copper, 200.8, Water	44	6	38		25	15	4	10	2	4		18	166	17	44
233	Oct12	WA - Water	ECLI18QT-W	SM9223 E. coli Colilert18QT, W		6			6		2	5		10		16	45	8	16
234	Oct12	WA - Water	ECLI24QT-W	SM9223 E. coli Colilert24QT, W												5	5	5	5
235	Jun12	WA - Water	ENTRLTQT-W	Enterococcus, Quantitray, W							2	5					7	4	5
236	Oct12	WA - Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A	1	8			8	11		8	9		8	13	66	8	13
237	Oct12	WA - Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A			9									2	11	6	9
238	Oct12	WA - Water	FE-200.8-D	Iron, 200.8, Dissolved	35	6	38	4	26	27		4				18	158	20	38
239	Oct12	WA - Water	FE-200.8-W	Iron, 200.8, Water	35	6	38		20	15		4				18	136	19	38
240	Oct12	WA - Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water	60	28	49	42	37	52	21	19	55	9	3	49	424	35	60
241	Apr12	WA - Water	MN-200.8-D	Manganese, 200.8, Dissolved	13	6	12	4	19	27							81	14	27
242	Apr12	WA - Water	MN-200.8-W	Manganese, 200.8, Water	13	6	12		13	15							59	12	15
243	Oct12	WA - Water	NH3-4500-W	Ammonia, SM4500D, Water	60	28	49	42	37	52	21	16	55	9	3	49	421	35	60
244	Oct12	WA - Water	NH3N-4500W	Ammonia-N,4500, Water	60	28	49	42	37	52	21	16	55	9	3	49	421	35	60
245	Oct12	WA - Water	NI-200.8-D	Nickel, 200.8, Dissolved	22		26		7			4				18	77	15	26
246	Oct12	WA - Water	NI-200.8-W	Nickel, 200.8, Water	22		26		7			4				18	77	15	26
247	Oct12	WA - Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	64	29	50	47	38	53	22	12	55	10	4	47	431	36	64
248	Oct12	WA - Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	65	29	50	48	38	53	23	12	55	10	4	47	434	36	65
249	Oct12	WA - Water	PB-200.8-D	Lead, 200.8, Dissolved	39	6	38		22	27		8		4		18	162	20	39
250	Oct12	WA - Water	PB-200.8-W	Lead, 200.8, Water	44	6	38		17	15	4	10	2	4		18	158	16	44
251	Oct12	WA - Water	SB-200.8-D	Antimony, 200.8, Dissolved	22		26		7			4				18	77	15	26
252	Oct12	WA - Water	SB-200.8-W	Antimony, 200.8, Water	22		26		7			4				18	77	15	26
253	Oct12	WA - Water	SE-200.8-D	Selenium, 200.8, Dissolved	35	6	38		26	27		4				18	154	22	38
254	Oct12	WA - Water	SE-200.8-W	Selenium, 200.8, Water	35	6	38		20	15		4				18	136	19	38
255	Oct12	WA - Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A	1	8			8	11		8	9		8	13	66	8	13
256	Oct12	WA - Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A			9									2	11	6	9
257	Oct12	WA - Water	TEMP	Temperature	2	2	2	2	2	2	2	1	1	3	2	3	24	2	3
258	Oct12	WA - Water	TL-200.8-D	Thallium, 200.8, Dissolved	22		26		7			4				18	77	15	26
259	Oct12	WA - Water	TL-200.8-W	Thallium, 200.8, Water	22		26		7			4				18	77	15	26
260	Oct12	WA - Water	TOTAL-N	Total Nitrogen	18	19		38	4	22	17	8	38	5		22	191	19	38
261	Sep12	WA - Water	TOXACUTE-W	Acute Toxicity, Water	3				1		2		2		2		10	2	3
262	Oct12	WA - Water	TOXSEAUR-W	Toxicity Sea Urchin, Water			7		7							9	23	8	9
263	Oct12	WA - Water	TOXWFLEA-W	Toxicity Water Flea, Water			7		7							9	23	8	9
264	Oct12	WA - Water	ZN-200.8-D	Zinc, 200.8, Dissolved	39	6	38	4	30	27		8		4		18	174	19	39
265	Oct12	WA - Water	ZN-200.8-W	Zinc, 200.8, Water	40	7	39	1	25	16	3	10		5	1	20	167	15	40
266	May12	WI - Wipe	3050Cu-S	Copper, EPA 7210, Solid							2						2	2	2
267	Jan12	WI - Wipe	691PY-Wipe	Pyrethroids Scan, Wipe			3										3	3	3
268	Jun12	WI - Wipe	LEAD-WIPE	Lead on Wipes, E7420	164	205	107	154	164	195	84	149	160	218	174	207	1981	165	218
269	Oct12	WW - Waste Water	1613B-W	Dioxin TCDD EPA 1613 B, Water	1						2					1	4	1	2
270	Oct12	WW - Waste Water	1664-W	Oil & Grease EPA 1664 A, Water	8	5	6	7	6	5	9	6	7	6	6	7	78	7	9
271	Jul12	WW - Waste Water	2130TUR-W	SM 2130B Turbidity, Water								1	1				2	1	1
272	Oct12	WW - Waste Water	245.1HG-W	Mercury,E245.1,Water	1						2					1	4	1	2
273	Jul12	WW - Waste Water	2540SS-W	Setteable Solids SM2540F,Water								1	1				2	1	1
274	Oct12	WW - Waste Water	2540-TDS-W	TDS SM2540C, Water	6	2	9	4	3	2	11	6	4	10	3	3	63	5	11
275	Oct12	WW - Waste Water	2540TSS-W	TSS SM2540D, Water	16	12	22	12	13	12	22	14	16	19	13	15	186	16	22
276	Oct12	WW - Waste Water	300CL-W	Chloride Anion EPA 300.1,Water	5	2	9	3	3	2	10	6	4	9	3	3	59	5	10
277	Jun12	WW - Waste Water	300FL-W	Fluoride Anion EPA 300.1,Water	3							2					5	3	3
278	Oct12	WW - Waste Water	300NO2-W	Nitrite Anion EPA 300.1,Water	6	2	9	4	11	2	11	6	4	10	3	3	71	6	11
279	Oct12	WW - Waste Water	300NO3-W	Nitrate Anion EPA 300.1,Water	6	2	9	4	11	2	11	6	4	10	3	3	71	6	11
280	Oct12	WW - Waste Water	300PO4P-W	Phosphate Anion EPA300.1,Water	4	2	9	2	3	2	10	3	2	9	3	2	51	4	10
																			Page 4

MANAGEMENT CONSULTANTS

	Month	All Customers	Analysis Code	Analysis Description	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12	Avge / Month	Max / Month
281	Oct12	WW - Waste Water	300S04-W	Sulfate Anion EPA 300.1,Water	6	2	9	4	3	2	11	6	4	10	3	3	**63**	**5**	**11**
282	May12	WW - Waste Water	420PHEN-W	Phenolics EPA 420.1,Water							1						**1**	**1**	**1**
283	Oct12	WW - Waste Water	4500BOR-W	BORON, Water	4	2	9	4	3	2	11	4	4	10	3	3	**59**	**5**	**11**
284	Oct12	WW - Waste Water	4500CHL-W	Chlorine SM4500-CLTotal Water	5	4	5	4	4	4	6	4	5	4	4	5	**54**	**5**	**6**
285	Oct12	WW - Waste Water	4500KNO-W	Organic Nitrogen SM4500, Water	3	2	9	4	10	2	11	2	3	10	2	3	**61**	**5**	**11**
286	Jun12	WW - Waste Water	4500PHO-W	Total Phosphate SM4500-P E, W	2							2					**4**	**2**	**2**
287	Oct12	WW - Waste Water	4500-PH-W	SM4500 PH, Water	8	4	12	4	5	4	12	8	6	11	5	5	**84**	**7**	**12**
288	May12	WW - Waste Water	4500SULF-W	Sulfide SM 4500-S E,Water							1						**1**	**1**	**1**
289	Nov11	WW - Waste Water	504.1-D	EPA Method 504.1 , DW	1												**1**	**1**	**1**
290	Nov11	WW - Waste Water	505-OHPA-D	EPA Method 505 , DW	1												**1**	**1**	**1**
291	Nov11	WW - Waste Water	507-NPP-W	EPA 507 N/P Pesticides, Water	1												**1**	**1**	**1**
292	Nov11	WW - Waste Water	515.3CHA-W	515.3 Chlorinated Acids-W	1												**1**	**1**	**1**
293	Oct12	WW - Waste Water	5210BOD-W	B-BOD SM5210 B ,Water	1		7		1		16	14	4	7	1	15	**66**	**7**	**16**
294	Nov11	WW - Waste Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	1												**1**	**1**	**1**
295	Nov11	WW - Waste Water	531.1CBM-W	Carbamates EPA 531.1, Water	1												**1**	**1**	**1**
296	Oct12	WW - Waste Water	5310TOC-W	TOC SM 5310 B,Water	1			1	1		1	1	1		1	1	**8**	**1**	**1**
297	Nov11	WW - Waste Water	547GLY-D	Glyphosate EPA 547, DW	1												**1**	**1**	**1**
298	Nov11	WW - Waste Water	548-D	Endothall EPA 548, DWater	1												**1**	**1**	**1**
299	Nov11	WW - Waste Water	549.2-D	Diquat & Paraquat EPA549.2, DW	1												**1**	**1**	**1**
300	Oct12	WW - Waste Water	5540MBAS-W	MBAS, Water	5	2	9	2	2	2	11	4	2	9	2	2	**52**	**4.333333**	**11**
301	Oct12	WW - Waste Water	608-WW	EPA Method 608, Waste Water							2					1	**3**	**1.5**	**2**
302	Oct12	WW - Waste Water	624AC-W	EPA 624 Acrln & Acryl, W							2					1	**3**	**1.5**	**2**
303	Oct12	WW - Waste Water	624-SM-W	EPA Meth 624,SewerMaint, Water	1						2					1	**4**	**1.333333**	**2**
304	Oct12	WW - Waste Water	625-WW	EPA Method 625, Waste Water							2					1	**3**	**1.5**	**2**
305	Oct12	WW - Waste Water	900ALPHA-W	Gross Alpha EPA 900.0, Water												1	**1**	**1**	**1**
306	Oct12	WW - Waste Water	903RAD226W	Total Alpha Rad EPA 903.0Water												1	**1**	**1**	**1**
307	Oct12	WW - Waste Water	908URA-W	Uranium EPA 908 , Water												1	**1**	**1**	**1**
308	Oct12	WW - Waste Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W	10	8	17	8	8	8	17	8	10	15	8	10	**127**	**10.58333**	**17**
309	Oct12	WW - Waste Water	9221TCLI-W	SM9221B Total Coliform MTF, W	10	8	17	8	8	8	17	8	10	15	8	10	**127**	**10.58333**	**17**
310	Oct12	WW - Waste Water	AG-200.8-W	Silver, 200.8, Water							2					1	**3**	**1.5**	**2**
311	Nov11	WW - Waste Water	AL-200.8-D	Aluminum, 200.8, Dissolved	1												**1**	**1**	**1**
312	Nov11	WW - Waste Water	AS-200.8-D	Arsenic, 200.8, Dissolved	1												**1**	**1**	**1**
313	Oct12	WW - Waste Water	AS-200.8-W	Arsenic, 200.8, Water							2					1	**3**	**1.5**	**2**
314	Nov11	WW - Waste Water	BA-200.8-D	Barium, 200.8, Dissolved	1												**1**	**1**	**1**
315	Nov11	WW - Waste Water	BE-200.8-D	Beryllium, 200.8, Dissolved	1												**1**	**1**	**1**
316	Oct12	WW - Waste Water	BE-200.8-W	Beryllium, 200.8, Water							2					1	**3**	**1.5**	**2**
317	Nov11	WW - Waste Water	CD-200.8-D	Cadmium, 200.8, Dissolved	1												**1**	**1**	**1**
318	Oct12	WW - Waste Water	CD-200.8-W	Cadmium, 200.8, Water							2					1	**3**	**1.5**	**2**
319	Oct12	WW - Waste Water	CN4500E-W	Cyanide, SM4500-CN E, Water	1						2					1	**4**	**1.333333**	**2**
320	Nov11	WW - Waste Water	CR-200.8-D	Chromium, 200.8, Dissolved	1												**1**	**1**	**1**
321	Oct12	WW - Waste Water	CR-200.8-W	Chromium, 200.8, Water							2					1	**3**	**1.5**	**2**
322	Oct12	WW - Waste Water	CU-200.8-W	Copper, 200.8, Water							2					1	**3**	**1.5**	**2**
323	Oct12	WW - Waste Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water	3	2	9	4	10	2	11	2	3	10	2	4	**62**	**5.166667**	**11**
324	Oct12	WW - Waste Water	NH3-4500-W	Ammonia, SM4500D, Water	5	2	9	4	10	2	11	5	3	10	2	3	**66**	**5.5**	**11**
325	Oct12	WW - Waste Water	NH3N-4500W	Ammonia-N,4500, Water	6	2	9	4	11	2	11	5	3	10	3	3	**69**	**5.75**	**11**
326	Nov11	WW - Waste Water	NI-200.8-D	Nickel, 200.8, Dissolved	1												**1**	**1**	**1**
327	Oct12	WW - Waste Water	NI-200.8-W	Nickel, 200.8, Water							2					1	**3**	**1.5**	**2**
328	Oct12	WW - Waste Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	6	2	9	4	11	2	11	6	4	10	3	3	**71**	**5.916667**	**11**
329	Oct12	WW - Waste Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	6	2	9	4	11	2	11	6	4	10	3	3	**71**	**5.916667**	**11**
330	Oct12	WW - Waste Water	PB-200.8-W	Lead, 200.8, Water							2					1	**3**	**1.5**	**2**
331	Oct12	WW - Waste Water	RA228-W	Radium 228 EPA RA-05, Water												1	**1**	**1**	**1**
332	Nov11	WW - Waste Water	SB-200.8-D	Antimony, 200.8, Dissolved	1												**1**	**1**	**1**
333	Oct12	WW - Waste Water	SB-200.8-W	Antimony, 200.8, Water							2					1	**3**	**1.5**	**2**
334	Nov11	WW - Waste Water	SE-200.8-D	Selenium, 200.8, Dissolved	1												**1**	**1**	**1**
335	Oct12	WW - Waste Water	SE-200.8-W	Selenium, 200.8, Water							2					1	**3**	**1.5**	**2**
336	Jul12	WW - Waste Water	TEMP	Temperature									1				**1**	**1**	**1**
337	Nov11	WW - Waste Water	TL-200.8-D	Thallium, 200.8, Dissolved	1												**1**	**1**	**1**
338	Oct12	WW - Waste Water	TL-200.8-W	Thallium, 200.8, Water							2					1	**3**	**1.5**	**2**
339	Jul12	WW - Waste Water	TOTAL-N	Total Nitrogen									1				**1**	**1**	**1**
340	Oct12	WW - Waste Water	ZN-200.8-W	Zinc, 200.8, Water							2	1	1			1	**5**	**1.25**	**2**
				Totals	**5,121**	**2,693**	**5,330**	**3,288**	**3,854**	**4,218**	**2,992**	**3,317**	**3,796**	**3,086**	**2,360**	**4,643**	**44,698**	**4,558**	**7,441**
				Count	**204**	**119**	**197**	**157**	**216**	**168**	**155**	**243**	**152**	**146**	**137**	**177**	**340**		**Page 5**

CGR MANAGEMENT CONSULTANTS

The Number of Each Matrix Performed for Each Client (7 pages)

	All Customers	Analysis Code	Analysis Description	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS	Total Matrix
1	DW - Drinking Water	100.2ASB-D	Asbestos,E100.2,Drinking Water	8															8
2	DW - Drinking Water	1613B-D	Dioxin TCDD EPA 1613 B, DWater	22															22
3	DW - Drinking Water	2007SIL-W	Silica EPA 200.7,Water	3															3
4	DW - Drinking Water	2120COL-W	Color SM2120 B ,Water	1,345										3	3				1,351
5	DW - Drinking Water	2120ODR-W	ODOR SM 2150 B,Water	1,326										3	3				1,332
6	DW - Drinking Water	2130TUR-W	SM 2130B Turbidity, Water	1,404									66	5	3				1,478
7	DW - Drinking Water	218CHR6-W	Chromium VI,Water	3										1	3				7
8	DW - Drinking Water	218DCHR6-W	Chromium VI, Dissolved, Water							4				1					5
9	DW - Drinking Water	2340HARD-W	Hardness SM2340 C,Water	6															6
10	DW - Drinking Water	245.1HG-W	Mercury,E245.1,Water	16										4	3				23
11	DW - Drinking Water	2540-TDS-W	TDS SM2540C, Water	120								1		5	3				129
12	DW - Drinking Water	300BRO3-W	Bromate EPA 300.1,Water	65						1									66
13	DW - Drinking Water	300CLO2-W	Chlorite EPA 300.1,Water	65															65
14	DW - Drinking Water	300CL-W	Chloride Anion EPA 300.1,Water	18								1		3					22
15	DW - Drinking Water	300FL-W	Fluoride Anion EPA 300.1,Water	17										3					20
16	DW - Drinking Water	300NO2-W	Nitrite Anion EPA 300.1,Water	34										4					38
17	DW - Drinking Water	300NO3-W	Nitrate Anion EPA 300.1,Water	263								1	3	5					272
18	DW - Drinking Water	300PO4P-W	Phosphate Anion EPA300.1,Water	1										3					4
19	DW - Drinking Water	300S04-W	Sulfate Anion EPA 300.1,Water	18								1		3					22
20	DW - Drinking Water	314CL4-W	Perchlorate EPA 314.0,Water	21						1				2					24
21	DW - Drinking Water	3500CAMG	Hardness,Ca, Mg,Water	12															12
22	DW - Drinking Water	3500CA-W	Calcium SM 3500 CA B ,Water	7															7
23	DW - Drinking Water	3500K-D	Potassium SM3500 K D, D	2															2
24	DW - Drinking Water	3500K-W	Potassium SM3500 K D ,W	8															8
25	DW - Drinking Water	3500MG-W	Magnesium SM 3500 MG B ,Water	6															6
26	DW - Drinking Water	3500NA-D	Sodium SM 3500 NA D, D	2															2
27	DW - Drinking Water	3500NA-W	Sodium SM 3500 NA D ,W	16															16
28	DW - Drinking Water	4500BOR-W	BORON, Water	5								1		2					8
29	DW - Drinking Water	4500CHL-W	Chlorine SM4500-CLTotal Water										3	2					5
30	DW - Drinking Water	4500FCHL-W	FieldChlorine SM4500-CL,Total	4,028								1	153	13			2		4,197
31	DW - Drinking Water	4500-OG-W	SM 4500-O.G, DO Water	67															67
32	DW - Drinking Water	4500-PH-W	SM4500 PH, Water	1,159						11			7	3					1,180
33	DW - Drinking Water	504.1-D	EPA Method 504.1 , DW	24										2					26
34	DW - Drinking Water	505-OHPA-D	EPA Method 505 , DW	22						6				2	3				33
35	DW - Drinking Water	507-NPHP-D	EPA 507 Herbicide Pesticide	67										2					69
36	DW - Drinking Water	507-NPP-D	EPA 507 N/P Pesticides	25										2					27
37	DW - Drinking Water	515.3CHA-D	515.3 Chlorinated Acids-DW	22										2					24
38	DW - Drinking Water	524.2FUL-D	EPA 524.2 Volatiles GCMS	94						6				4	3				107
39	DW - Drinking Water	524.2GAD-D	GAD EPA 524.2, Drinking Water	3										2					5
40	DW - Drinking Water	524.2SIM-D	EPA 524.2SIM 1,2,3-TCP , DW	19															19
41	DW - Drinking Water	524.2THM-D	EPA 524.2 THM List, Drinking W	450						7			7						464
42	DW - Drinking Water	524MTBE-D	EPA Method 524 MTBE GCMS, DW	5															5
43	DW - Drinking Water	525.2FL-D	EPA 525.2 SOC Full List, DW	1															1
44	DW - Drinking Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	69															69
45	DW - Drinking Water	531.1CBM-D	Carbamates EPA 531.1, DW	22										2					24
46	DW - Drinking Water	5310TOC-W	TOC SM 5310 B,Water	65										2					67
47	DW - Drinking Water	547GLY-D	Glyphosate EPA 547, DW	8										2					10
48	DW - Drinking Water	547GLY-W	Glyphosate EPA 547, Water	5															5
49	DW - Drinking Water	548-D	Endothall EPA 548, DWater	22															22
50	DW - Drinking Water	549.2-D	Diquat & Paraquat EPA549.2, DW	22															22
																			Page 1

	All Customers	Analysis Code	Analysis Description	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS	Total Matrix
51	DW - Drinking Water	552.2FUL-D	HAA Full List, 552.2, DW	260						7			7	2					276
52	DW - Drinking Water	5540MBAS-W	MBAS, Water	16										4					20
53	DW - Drinking Water	625-W	EPA Method 625, Water	24															24
54	DW - Drinking Water	8015MDSL-D	Diesel EPA 8015M,DrinkingWater	3															3
55	DW - Drinking Water	8015MGSL-D	Gasoline EPA 8015M, DW	3															3
56	DW - Drinking Water	900ALPHA-W	Gross Alpha EPA 900.0, Water	45															45
57	DW - Drinking Water	900BETA-W	Gross Beta EPA 900.0, Water	1															1
58	DW - Drinking Water	903RAD226W	Total Alpha Rad EPA 903.0Water	43															43
59	DW - Drinking Water	908URA-W	Uranium EPA 908 , Water	47															47
60	DW - Drinking Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D							1		1							2
61	DW - Drinking Water	9221TCLI-D	SM9221B, Total Coliform MTF, D							1		1							2
62	DW - Drinking Water	9230-ENT-D	Enterococcus, SM 9230B, DW									1							1
63	DW - Drinking Water	AG-200.8-D	Silver, 200.8, Dissolved	16										3	3				22
64	DW - Drinking Water	AL-200.8-D	Aluminum, 200.8, Dissolved	16										5	3				24
65	DW - Drinking Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW	20															20
66	DW - Drinking Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW	20															20
67	DW - Drinking Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW	20															20
68	DW - Drinking Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW	21															21
69	DW - Drinking Water	AS-200.8-D	Arsenic, 200.8, Dissolved	667				3		1				5	3				679
70	DW - Drinking Water	ASTM-D5504	D5504 Reduced Sulfur Analysis	2															2
71	DW - Drinking Water	BA-200.8-D	Barium, 200.8, Dissolved	15										5	3				23
72	DW - Drinking Water	BE-200.8-D	Beryllium, 200.8, Dissolved	15										3					18
73	DW - Drinking Water	CD-200.8-D	Cadmium, 200.8, Dissolved	15										5	3				23
74	DW - Drinking Water	CN4500E-W	Cyanide, SM4500-CN E, Water	78										2					80
75	DW - Drinking Water	CO-200.8-D	Cobalt, 200.8, Dissolved											2					2
76	DW - Drinking Water	COND-2510	Conductivity, SM2510B, Water	83										3					86
77	DW - Drinking Water	CR-200.8-D	Chromium, 200.8, Dissolved	15										5	3				23
78	DW - Drinking Water	CU-200.8-D	Copper, 200.8, Dissolved	61						11			45	15	3				135
79	DW - Drinking Water	ECLI18QT-D	SM9223 E. coli Colilert18QT, D							11			68	10					89
80	DW - Drinking Water	ECLI24QT-D	SM9223 E. coli Colilert24QT, D										5	2					7
81	DW - Drinking Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A	4,439				2		18			75	1					4,535
82	DW - Drinking Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A	196									10	1	3			1	211
83	DW - Drinking Water	FE-200.8-D	Iron, 200.8, Dissolved	51										3	3				57
84	DW - Drinking Water	HPC-SIM-D	HPC, Idexx Simplate, DW	271						3			3	12	3			1	293
85	DW - Drinking Water	LANGELIER	Langelier Index Calculation	6															6
86	DW - Drinking Water	LEAD-DW	Lead in Drinking Water,SM3113B						218										218
87	DW - Drinking Water	MN-200.8-D	Manganese, 200.8, Dissolved	23										3	3				29
88	DW - Drinking Water	MO-200.8-D	Molybdenum, 200.8, Dissolved											2					2
89	DW - Drinking Water	NH3-4500-D	Ammonia,SM4500D,Drinking Water	11															11
90	DW - Drinking Water	NH3N-4500D	Ammonia-N,4500,Drinking Water	4															4
91	DW - Drinking Water	NI-200.8-D	Nickel, 200.8, Dissolved	15										5					20
92	DW - Drinking Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	14															14
93	DW - Drinking Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	55								1							56
94	DW - Drinking Water	PB-200.8-D	Lead, 200.8, Dissolved	49						11			45	15	3				123
95	DW - Drinking Water	RA228-W	Radium 228 EPA RA-05, Water	43															43
96	DW - Drinking Water	RSK-175-D	Diss Methane,Ethane,Ethylene	8															8
97	DW - Drinking Water	SB-200.8-D	Antimony, 200.8, Dissolved	15										5					20
98	DW - Drinking Water	SE-200.8-D	Selenium, 200.8, Dissolved	15										5	3				23
99	DW - Drinking Water	TCLI18QT-D	SM9223 Total Coliform Clt18QTd							11			49	10					70
100	DW - Drinking Water	TCLI24QT-D	SM9223 Total Coliform Clt24QTd										4	2					6
																			Page 2

	All Customers	Analysis Code	Analysis Description	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS	Total Matrix
101	DW - Drinking Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A	4,439				2		18			75	1					4,535
102	DW - Drinking Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A	196									10	1	3			1	211
103	DW - Drinking Water	TEMP	Temperature	228									23						251
104	DW - Drinking Water	TL-200.8-D	Thallium, 200.8, Dissolved	15										5					20
105	DW - Drinking Water	V-200.8-D	Vanadium, 200.8, Dissolved	1										2					3
106	DW - Drinking Water	ZN-200.8-D	Zinc, 200.8, Dissolved	16										3	3				22
107	FD - Food	LEAD-F<25	Lead in Food < 25 grams, E7421						75										75
108	FD - Food	LEAD-S	Lead in Solid, E7420						7										7
109	FD - Food	MRS-CB	MRS N-Methylcarbamate Pest.												5				5
110	FD - Food	MRS-CH	MRS Organohalogen Pesticide												5				5
111	FD - Food	MRS-OP	MRS Organophosphate Pesticide												5				5
112	FD - Food	MRS-PY	MRS Pyrethroids Pesticide												5				5
113	FD - Food	SO3-AOAC-F	Sulfite,AOAC 961.09,Food								1								1
114	MI - Miscellaneous	LEAD-F<25	Lead in Food < 25 grams, E7421						7										7
115	MI - Miscellaneous	LEAD-S	Lead in Solid, E7420						16										16
116	MI - Miscellaneous	LEAD-WRAP	Lead in Wrapper, AOAC						18										18
117	O - Others	245Hg-S	Mercury, SW														5		5
118	O - Others	691PY-Soil	Pyrethroids Scan, Soil												1				1
119	O - Others	LEAD-S	Lead in Solid, E7420						8										8
120	P - Paint	LEAD-PC	Lead in Paint Chips,E7420						3										3
121	PC - Paint Chip	LEAD-PC	Lead in Paint Chips,E7420						15										15
122	PL - Plant	MRS-CB	MRS N-Methylcarbamate Pest.												4				4
123	SO - Soil	245Hg-S	Mercury, SW			4	4												8
124	SO - Soil	300NO3-S	Nitrate EPA 300.0, Soil				4												4
125	SO - Soil	3050Ag-S	Silver, EPA 7761, Solid			4													4
126	SO - Soil	3050AL-S	Aluminum, EPA 3113 B, Solid			4													4
127	SO - Soil	3050As-S	Arsenic, EPA 7060A, Solid			4	4												8
128	SO - Soil	3050Ba-S	Barium, EPA 7081, Solid			4													4
129	SO - Soil	3050Be-S	Beryllium, EPA 7091, Solid			4													4
130	SO - Soil	3050Cd-S	Cadmium, EPA 7130, Solid			4	4												8
131	SO - Soil	3050Cu-S	Copper, EPA 7210, Solid			4	4												8
132	SO - Soil	3050Fe-S	Iron EPA 7380, Solid			4													4
133	SO - Soil	3050Mn-S	Manganese , EPA 7460, Solid			4													4
134	SO - Soil	3050Mo-S	Molybdenum EPA 7481, Solid			4	4												8
135	SO - Soil	3050Ni-S	Nickel, EPA 7520, Solid			4	4												8
136	SO - Soil	3050Pb-S	Lead EPA 7420, Solid			4	4												8
137	SO - Soil	3050Sb-S	Antimony, EPA 7041, Solid			4													4
138	SO - Soil	3050Se-S	Selenium EPA 7740, Solid			4	4												8
139	SO - Soil	3050Tl-S	Thallium, EPA 7841, Solid			4													4
140	SO - Soil	3050V-S	Vanadium, EPA 7911, Solid			4													4
141	SO - Soil	3050Zn-S	Zinc, EPA 7950, Solid			4	4												8
142	SO - Soil	4500KNO-S	Organic Nitrogen SM4500, Soil				4												4
143	SO - Soil	691PY-Soil	Pyrethroids Scan, Soil												1				1
144	SO - Soil	KN-4500-S	Kjeldahl-N, SM4500org C, Soil				2												2
145	SO - Soil	LEAD-S	Lead in Solid, E7420						244										244
146	SO - Soil	NH3-4500-S	Ammonia,4500, Soil				4												4
147	SO - Soil	NH3N-4500S	Ammonia-N, SM4500, Soil				4												4
148	SO - Soil	NO3-N-S	Nitrate-N Anion EPA 300.1,Soil				4												4
149	WA - Water	1623-W	Giardia EPA 1623, Water										1						1
150	WA - Water	1625-NDMA	NDMA, EPA 1625CM, Water			7													7
																			Page 3

	All Customers	Analysis Code	Analysis Description	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS	Total Matrix
151	WA - Water	1664-W	Oil & Grease EPA 1664 A, Water		187	16					3	16		2					224
152	WA - Water	2130TUR-W	SM 2130B Turbidity, Water		147	59				3	7	10	1				2		229
153	WA - Water	218CHR6-W	Chromium VI,Water		70	4													74
154	WA - Water	218DCHR6-W	Chromium VI, Dissolved, Water		70														70
155	WA - Water	2340HARD-W	Hardness SM2340 C,Water		96	4				3									103
156	WA - Water	245.1DHG-W	Mercury,E245.1,Dissolved Water		73	4													77
157	WA - Water	245.1HG-W	Mercury,E245.1,Water		73	4													77
158	WA - Water	2540SS-W	Setteable Solids SM2540F,Water									10							10
159	WA - Water	2540-TDS-W	TDS SM2540C, Water		147	179	55			3		30							414
160	WA - Water	2540TSS-W	TSS SM2540D, Water		197	101					7	22		8					335
161	WA - Water	2540VSS-W	VSS SM2540 E ,Water		70														70
162	WA - Water	300CL-W	Chloride Anion EPA 300.1,Water		150	1,094	55					42							1,341
163	WA - Water	300FL-W	Fluoride Anion EPA 300.1,Water		150	4						4							158
164	WA - Water	300NO2-W	Nitrite Anion EPA 300.1,Water		163	184	55			3	3	27				3			438
165	WA - Water	300NO3-W	Nitrate Anion EPA 300.1,Water		163	184	55			3	3	30	3			3			444
166	WA - Water	300PO4P-W	Phosphate Anion EPA300.1,Water				55					10							65
167	WA - Water	300S04-W	Sulfate Anion EPA 300.1,Water		150	179	55					30							414
168	WA - Water	314CL4-W	Perchlorate EPA 314.0,Water			7													7
169	WA - Water	3500CAMG	Hardness,Ca, Mg,Water		67							4							71
170	WA - Water	3500CA-W	Calcium SM 3500 CA B ,Water		24	4													28
171	WA - Water	3500K-W	Potassium SM3500 K D ,W		77	4						4							85
172	WA - Water	3500MG-W	Magnesium SM 3500 MG B ,Water		10	4													14
173	WA - Water	3500NA-W	Sodium SM 3500 NA D ,W		77	4						4							85
174	WA - Water	418.1TPH-W	TPH, EPA 418.1, Water		171	4				3									178
175	WA - Water	420PHEN-W	Phenolics EPA 420.1,Water		94							3							97
176	WA - Water	4500BOR-W	BORON, Water		77	179	55					27							338
177	WA - Water	4500CHL-W	Chlorine SM4500-CLTotal Water			65	55			3		1							124
178	WA - Water	4500DPHO-W	Diss.Phosphate SM4500-P E, W		73														73
179	WA - Water	4500FCHL-W	FieldChlorine SM4500-CL,Total			4		33				34	1						72
180	WA - Water	4500KNO-W	Organic Nitrogen SM4500, Water			180	55					13				3			251
181	WA - Water	4500-OG-W	SM 4500-O.G, DO Water		94					3									97
182	WA - Water	4500PHO-W	Total Phosphate SM4500-P E, W		166	4						4				3			177
183	WA - Water	4500-PH-W	SM4500 PH, Water		163	179	55			3	7	39	1	6		3	2		458
184	WA - Water	4500SULF-W	Sulfide SM 4500-S E,Water									3							3
185	WA - Water	505-OHPA-D	EPA Method 505 , DW			4													4
186	WA - Water	507-NPHP-D	EPA 507 Herbicide Pesticide	61		4										3			68
187	WA - Water	507-NPP-W	EPA 507 N/P Pesticides, Water		70	4										3			77
188	WA - Water	515.3CHA-W	515.3 Chlorinated Acids-W		73											3			76
189	WA - Water	5210BOD-W	B-BOD SM5210 B ,Water		70	65	54				7	22							218
190	WA - Water	5210CBOD-W	CBOD SM5210 B ,Water			9													9
191	WA - Water	5220COD-W	COD, Water		73	4													77
192	WA - Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	61															61
193	WA - Water	531.1CBM-W	Carbamates EPA 531.1, Water													3			3
194	WA - Water	5310TOC-W	TOC SM 5310 B,Water		73	4								8					85
195	WA - Water	547GLY-W	Glyphosate EPA 547, Water	2	73	4										3			82
196	WA - Water	5540MBAS-W	MBAS, Water		70	4	54					7							135
197	WA - Water	608-W	EPA Method 608, Water		70											3			73
198	WA - Water	624MTBE-W	EPA Method 624 MTBE GCMS, W			7													7
199	WA - Water	624-OG-W	EPA Method 624, OG List, Water		94														94
200	WA - Water	624-W	EPA Method 624,Full List,Water		22					3	3								28
																			Page 4

	All Customers	Analysis Code	Analysis Description	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS	Total Matrix
201	WA - Water	624-WMCUST	EPA 624 Watershed Custom List		55														55
202	WA - Water	624-WR-W	EPA Meth 624,WaterRsrc, Water			11													11
203	WA - Water	625-W	EPA Method 625, Water		73	11													84
204	WA - Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D									32					2		34
205	WA - Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W		211	179	55			3									448
206	WA - Water	9221TCLI-D	SM9221B, Total Coliform MTF, D									32					2		34
207	WA - Water	9221TCLI-W	SM9221B Total Coliform MTF, W		211	179	55			3									448
208	WA - Water	9230-ENT-D	Enterococcus, SM 9230B, DW									28							28
209	WA - Water	9230-ENT-W	Enterococcus, SM 9230B, Water		211	179													390
210	WA - Water	9230-STR-W	Streptococcus, SM 9230B, W		94	4													98
211	WA - Water	AG-200.8-D	Silver, 200.8, Dissolved		73	4													77
212	WA - Water	AG-200.8-W	Silver, 200.8, Water		73	4													77
213	WA - Water	AL-200.8-D	Aluminum, 200.8, Dissolved		166	4						4							174
214	WA - Water	AL-200.8-W	Aluminum, 200.8, Water		148	4													152
215	WA - Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW		93	4					7	4							108
216	WA - Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW		64	4					7	4							79
217	WA - Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW		93	4					7	4							108
218	WA - Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW		163	4				3	7	4							181
219	WA - Water	AS-200.8-D	Arsenic, 200.8, Dissolved		73	4		3											80
220	WA - Water	AS-200.8-W	Arsenic, 200.8, Water		73	4													77
221	WA - Water	BA-200.8-D	Barium, 200.8, Dissolved		73	4													77
222	WA - Water	BA-200.8-W	Barium, 200.8, Water		73	4													77
223	WA - Water	BE-200.8-D	Beryllium, 200.8, Dissolved		73	4													77
224	WA - Water	BE-200.8-W	Beryllium, 200.8, Water		73	4													77
225	WA - Water	CD-200.8-D	Cadmium, 200.8, Dissolved		166	4													170
226	WA - Water	CD-200.8-W	Cadmium, 200.8, Water		148	4					4								156
227	WA - Water	CN4500E-W	Cyanide, SM4500-CN E, Water		158	4													162
228	WA - Water	COND-2510	Conductivity, SM2510B, Water		150							4		8		3			165
229	WA - Water	CR-200.8-D	Chromium, 200.8, Dissolved		73	4													77
230	WA - Water	CR-200.8-W	Chromium, 200.8, Water		73	11					4								88
231	WA - Water	CU-200.8-D	Copper, 200.8, Dissolved		166	4						4							174
232	WA - Water	CU-200.8-W	Copper, 200.8, Water		148	11				3	4								166
233	WA - Water	ECLI18QT-W	SM9223 E. coli Colilert18QT, W		34	4					7								45
234	WA - Water	ECLI24QT-W	SM9223 E. coli Colilert24QT, W		5														5
235	WA - Water	ENTRLTQT-W	Enterococcus, Quantitray, W								7								7
236	WA - Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A					66											66
237	WA - Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A					11											11
238	WA - Water	FE-200.8-D	Iron, 200.8, Dissolved		150	4						4							158
239	WA - Water	FE-200.8-W	Iron, 200.8, Water		132	4													136
240	WA - Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water		166	184	55				3	13				3			424
241	WA - Water	MN-200.8-D	Manganese, 200.8, Dissolved		77							4							81
242	WA - Water	MN-200.8-W	Manganese, 200.8, Water		59														59
243	WA - Water	NH3-4500-W	Ammonia, SM4500D, Water		166	184	55					13				3			421
244	WA - Water	NH3N-4500W	Ammonia-N,4500, Water		166	184	55					13				3			421
245	WA - Water	NI-200.8-D	Nickel, 200.8, Dissolved		73	4													77
246	WA - Water	NI-200.8-W	Nickel, 200.8, Water		73	4													77
247	WA - Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA		163	180	55			3		27				3			431
248	WA - Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA		163	180	55			3		30				3			434
249	WA - Water	PB-200.8-D	Lead, 200.8, Dissolved		158	4													162
																			Page 5

	All Customers	Analysis Code	Analysis Description	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS	Total Matrix
250	WA - Water	PB-200.8-W	Lead, 200.8, Water		140	11				3	4								158
251	WA - Water	SB-200.8-D	Antimony, 200.8, Dissolved		73	4													77
252	WA - Water	SB-200.8-W	Antimony, 200.8, Water		73	4													77
253	WA - Water	SE-200.8-D	Selenium, 200.8, Dissolved		150	4													154
254	WA - Water	SE-200.8-W	Selenium, 200.8, Water		132	4													136
255	WA - Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A					66											66
256	WA - Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A					11											11
257	WA - Water	TEMP	Temperature									23				1			24
258	WA - Water	TL-200.8-D	Thallium, 200.8, Dissolved		73	4													77
259	WA - Water	TL-200.8-W	Thallium, 200.8, Water		73	4													77
260	WA - Water	TOTAL-N	Total Nitrogen		12	179													191
261	WA - Water	TOXACUTE-W	Acute Toxicity, Water			9						1							10
262	WA - Water	TOXSEAUR-W	Toxicity Sea Urchin, Water		23														23
263	WA - Water	TOXWFLEA-W	Toxicity Water Flea, Water		23														23
264	WA - Water	ZN-200.8-D	Zinc, 200.8, Dissolved		166	4						4							174
265	WA - Water	ZN-200.8-W	Zinc, 200.8, Water		148	4					4	11							167
266	WI - Wipe	3050Cu-S	Copper, EPA 7210, Solid												2				2
267	WI - Wipe	691PY-Wipe	Pyrethroids Scan, Wipe												3				3
268	WI - Wipe	LEAD-WIPE	Lead on Wipes, E7420						1,981										1,981
269	WW - Waste Water	1613B-W	Dioxin TCDD EPA 1613 B, Water				3					1							4
270	WW - Waste Water	1664-W	Oil & Grease EPA 1664 A, Water				73					5							78
271	WW - Waste Water	2130TUR-W	SM 2130B Turbidity, Water									2							2
272	WW - Waste Water	245.1HG-W	Mercury,E245.1,Water				3					1							4
273	WW - Waste Water	2540SS-W	Setteable Solids SM2540F,Water									2							2
274	WW - Waste Water	2540-TDS-W	TDS SM2540C, Water				57					6							63
275	WW - Waste Water	2540TSS-W	TSS SM2540D, Water				184					2							186
276	WW - Waste Water	300CL-W	Chloride Anion EPA 300.1,Water				57					2							59
277	WW - Waste Water	300FL-W	Fluoride Anion EPA 300.1,Water				4					1							5
278	WW - Waste Water	300NO2-W	Nitrite Anion EPA 300.1,Water				65					6							71
279	WW - Waste Water	300NO3-W	Nitrate Anion EPA 300.1,Water				65					6							71
280	WW - Waste Water	300PO4P-W	Phosphate Anion EPA300.1,Water				49					2							51
281	WW - Waste Water	300S04-W	Sulfate Anion EPA 300.1,Water				57					6							63
282	WW - Waste Water	420PHEN-W	Phenolics EPA 420.1,Water									1							1
283	WW - Waste Water	4500BOR-W	BORON, Water				53					6							59
284	WW - Waste Water	4500CHL-W	Chlorine SM4500-CLTotal Water				53					1							54
285	WW - Waste Water	4500KNO-W	Organic Nitrogen SM4500, Water				57					4							61
286	WW - Waste Water	4500PHO-W	Total Phosphate SM4500-P E, W				4												4
287	WW - Waste Water	4500-PH-W	SM4500 PH, Water				82					2							84
288	WW - Waste Water	4500SULF-W	Sulfide SM 4500-S E,Water									1							1
289	WW - Waste Water	504.1-D	EPA Method 504.1 , DW									1							1
290	WW - Waste Water	505-OHPA-D	EPA Method 505 , DW									1							1
291	WW - Waste Water	507-NPP-W	EPA 507 N/P Pesticides, Water									1							1
292	WW - Waste Water	515.3CHA-W	515.3 Chlorinated Acids-W									1							1
293	WW - Waste Water	5210BOD-W	B-BOD SM5210 B ,Water				64					2							66
294	WW - Waste Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW									1							1
295	WW - Waste Water	531.1CBM-W	Carbamates EPA 531.1, Water									1							1
296	WW - Waste Water	5310TOC-W	TOC SM 5310 B,Water				8												8
297	WW - Waste Water	547GLY-D	Glyphosate EPA 547, DW									1							1
298	WW - Waste Water	548-D	Endothall EPA 548, DWater									1							1
299	WW - Waste Water	549.2-D	Diquat & Paraquat EPA549.2, DW									1							1
300	WW - Waste Water	5540MBAS-W	MBAS, Water				49					3							52
																			Page 6

CGR MANAGEMENT CONSULTANTS

	All Customers	Analysis Code	Analysis Description	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS	Total Matrix
301	WW - Waste Water	608-WW	EPA Method 608, Waste Water				3												3
302	WW - Waste Water	624AC-W	EPA 624 Acrln & Acryl, W				3												3
303	WW - Waste Water	624-SM-W	EPA Meth 624,SewerMaint, Water				3					1							4
304	WW - Waste Water	625-WW	EPA Method 625, Waste Water				3												3
305	WW - Waste Water	900ALPHA-W	Gross Alpha EPA 900.0, Water				1												1
306	WW - Waste Water	903RAD226W	Total Alpha Rad EPA 903.0Water				1												1
307	WW - Waste Water	908URA-W	Uranium EPA 908 , Water				1												1
308	WW - Waste Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W				127												127
309	WW - Waste Water	9221TCLI-W	SM9221B Total Coliform MTF, W				127												127
310	WW - Waste Water	AG-200.8-W	Silver, 200.8, Water				3												3
311	WW - Waste Water	AL-200.8-D	Aluminum, 200.8, Dissolved									1							1
312	WW - Waste Water	AS-200.8-D	Arsenic, 200.8, Dissolved									1							1
313	WW - Waste Water	AS-200.8-W	Arsenic, 200.8, Water				3												3
314	WW - Waste Water	BA-200.8-D	Barium, 200.8, Dissolved									1							1
315	WW - Waste Water	BE-200.8-D	Beryllium, 200.8, Dissolved									1							1
316	WW - Waste Water	BE-200.8-W	Beryllium, 200.8, Water				3												3
317	WW - Waste Water	CD-200.8-D	Cadmium, 200.8, Dissolved									1							1
318	WW - Waste Water	CD-200.8-W	Cadmium, 200.8, Water				3												3
319	WW - Waste Water	CN4500E-W	Cyanide, SM4500-CN E, Water				3					1							4
320	WW - Waste Water	CR-200.8-D	Chromium, 200.8, Dissolved									1							1
321	WW - Waste Water	CR-200.8-W	Chromium, 200.8, Water				3												3
322	WW - Waste Water	CU-200.8-W	Copper, 200.8, Water				3												3
323	WW - Waste Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water				58					4							62
324	WW - Waste Water	NH3-4500-W	Ammonia, SM4500D, Water				62					4							66
325	WW - Waste Water	NH3N-4500W	Ammonia-N,4500, Water				65					4							69
326	WW - Waste Water	NI-200.8-D	Nickel, 200.8, Dissolved									1							1
327	WW - Waste Water	NI-200.8-W	Nickel, 200.8, Water				3												3
328	WW - Waste Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA				65					6							71
329	WW - Waste Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA				65					6							71
330	WW - Waste Water	PB-200.8-W	Lead, 200.8, Water				3												3
331	WW - Waste Water	RA228-W	Radium 228 EPA RA-05, Water				1												1
332	WW - Waste Water	SB-200.8-D	Antimony, 200.8, Dissolved									1							1
333	WW - Waste Water	SB-200.8-W	Antimony, 200.8, Water				3												3
334	WW - Waste Water	SE-200.8-D	Selenium, 200.8, Dissolved									1							1
335	WW - Waste Water	SE-200.8-W	Selenium, 200.8, Water				3												3
336	WW - Waste Water	TEMP	Temperature									1							1
337	WW - Waste Water	TL-200.8-D	Thallium, 200.8, Dissolved									1							1
338	WW - Waste Water	TL-200.8-W	Thallium, 200.8, Water				3												3
339	WW - Waste Water	TOTAL-N	Total Nitrogen				1												1
340	WW - Waste Water	ZN-200.8-W	Zinc, 200.8, Water				3					2							5
			Total Analyses	**####**	**9,606**	**4,670**	**2,713**	**197**	**2,592**	**180**	**106**	**779**	**665**	**266**	**100**	**52**	**15**	**3**	**44,696**
			Count of Different Analyses	**97**	**91**	**103**	**82**	**9**	**11**	**35**	**21**	**104**	**24**	**65**	**32**	**18**	**6**	**3**	**340**

ETL Annual Budgets and Actuals, Revenues and Expenditures

ACTUALS	2012-13	2011-12	2010-11	2009-10	2008-09
EXPENDITURE					
Salaries & Benefits		$1,591,216	$1,694,000	$1,650,000	$1,399,000
Service and Supplies		$607,466	$508,000	$680,000	$755,000
Capital Assets		$124,135	$0	$0	$146,000
Total Expenditure		**$2,322,817**	**$2,202,000**	**$2,330,000**	**$2,300,000**
REVENUE					
Intrafund Transfers					
Public Health		$35,538	$37,000	$42,000	$62,000
Coroner		$0	$0	$0	$0
Various		$351	$0	$0	$5,000
Revenue					
Public Works		$918,035	$838,000	$1,017,000	$879,000
Others		$7,089	$10,000	$10,000	$4,000
Fire Department		$49,190	$30,000	$30,000	$0
Total Revenues		**$1,010,203**	**$915,000**	**$1,099,000**	**$950,000**
Net County Cost		**$1,312,614**	**$1,287,000**	**$1,231,000**	**$1,350,000**

BUDGETS	2012-13	2011-12	2010-11
EXPENDITURE			
Salaries & Benefits	$1,913,000	$1,942,000	$1,885,000
Service and Supplies	$612,000	$612,000	$617,000
Capital Assets	$0	$0	$0
Total Expenditure	$2,525,000	$2,554,000	$2,502,000
REVENUE			
Intrafund Transfers			
Public Health	$100,000	$100,000	$100,000
Coroner	$1,000	$1,000	$1,000
Various	$0	$0	$0
Revenue			
Public Works	$1,079,000	$1,414,000	$1,536,000
Others	$344,000	$14,000	$14,000
Fire Department	$37,000	$32,000	$0
Total Revenues	**$1,561,000**	**$1,561,000**	**$1,651,000**
Net County Cost	**$964,000**	**$993,000**	**$851,000**

Current Group III Fee Rates, Draft New Rates and Other Laboratory Rates (2 pages)

Test Price Group	Price Method	Gp. III Rate	Draft New Rate	Associated	Calscience	EMS	Weck	ATL	AETL
Ammonia (Calculation)	Calculation	$0.00	$2.62						
Corrosivity/Langelier Index (Calculation)	Calculation	$58.87	$58.87						
Mineral Balance (Calculation)	Calculation	$0.00	$12.89						
Nitrate-N (Calculation)	Calculation	$0.00	$2.98						$20.00
Nitrite-N (Calculation)	Calculation	$0.00	$2.98						$20.00
Organic Nitrogen (Calculation)	Calculation	$0.00	$8.30						$50.00
Total Nitrogen (Calculation)	Calculation	$0.00	$6.10						
Pesticides (Carbamate) MRS-CB	CDFA 691	$48.79	$169.98						
Pesticides (Chlorinated) CH-Wipe	CDFA 691	$48.79	$116.23						
Pesticides (Chlorinated) MRS-CH	CDFA 691	$48.79	$128.90						
Pesticides (Organophosphate)MRS-OP	CDFA 691	$48.79	$119.90						
Pesticides (Pyrethroids) MRS-PY	CDFA 691	$48.79	$127.93						
Pesticides (Pyrethroids) PY-Wipe	CDFA 691	$48.79	$106.50						
Oil and Grease (EPA 1664A)	EPA 1664A	$41.02	$53.97	$43.00	$60.00	$40.00	$35.00	$50.00	$50.00
Chromium VI	EPA 218.6	$71.24	$78.40	$29.00	$60.00	$80.00	$80.00	$87.00	$70.00
Chromium VI (Dissolve)	EPA 218.6	$71.24	$78.40	$29.00	$60.00	$80.00	$80.00	$87.00	$70.00
Mercury	EPA 245.1	$37.30	$59.04	$45.00	$30.00	$60.00	$45.00		
Mercury (Dissolve)	EPA 245.1	$37.30	$59.04	$45.00	$30.00	$60.00	$45.00		
Anion-Each (F, Cl, NO2, NO3, PO4, SO4)	EPA 300.0	$14.23	$27.29	$18.00	$30.00	$40.00	$15.00	$45.00	$17.00
Bromide	EPA 300.0	$14.23	$26.83	$61.00	$40.00	$55.00			
Perchlorate	EPA 314.0	$65.99	$67.27	$54.00	$60.00			$75.00	
Total Petroleum Hydrocarbon (TPH)	EPA 418.1	$25.85	$58.57	$129.00			$90.00		
Phenolic	EPA 420.1	$29.03	$45.97	$45.00	$50.00	$55.00			
Chlorinated Pesticides (EPA 505)	EPA 505	$92.49	$127.59						
N.P. Containing Pesticides (EPA 507)	EPA 507	$86.43	$185.80	$129.00					
Herbicides (EPA 515.3)	EPA 515.3	$84.07	$119.89	$161.00			$100.00		
THM, GC/MS (EPA 524.2) + MTBE	EPA 524.2	$26.55	$49.97	$75.00	$125.00		$40.00		
Volatile Organic Compounds (VOC)	EPA 524.2/624	$125.30	$137.81	$118.00	$150.00		$100.00	$165.00	$220.00
Carbamate Pesticides (EPA 531.1)	EPA 531.1	$92.29	$134.63	$161.00			$90.00		
Glyphosate (EPA 547)	EPA 547	$91.60	$105.12	$65.00	$60.00	$65.00			$40.00
Haloacetic Acid (EPA 552.2)	EPA 552.2	$155.00	$165.50	$161.00			$100.00		
Chlorinated Pesticides (EPA 608)	EPA 608	$122.84	$135.97	$129.00	$140.00				$200.00
Semi-Volatile Organic Compounds	EPA 625	$229.90	$245.02	$214.00	$225.00		$225.00	$185.00	$395.00
Heterotrophic Plate Counts (HPC)	IDEXX SimPlate	$6.55	$22.76	$22.00					$30.00
Metal-Each(Dissolve)	Metal	$18.25	$25.79	$18.00	$20.00	$18.00	$15.00	$35.00	$15.00
Metal-Each(Total)	Metal	$32.77	$27.04	$18.00	$20.00	$22.00	$15.00	$43.00	$30.00
Color	SM 2120B	$7.54	$11.39	$13.00	$20.00				$15.00
Conductivity	SM 2130B	$7.54	$16.90	$11.00	$20.00	$14.00		$15.00	$15.00
Turbidity	SM 2130B	$7.54	$16.90	$13.00	$15.00		$15.00		$15.00
Odor	SM 2150B	$7.54	$11.39	$17.00	$20.00				$25.00
Taste	SM 2160	$8.24	$17.85						
Alkalinity Total	SM 2320B	$19.53	$25.79	$18.00	$20.00	$24.00		$20.00	$20.00
Hardness	SM 2340C	$14.23	$21.46	$17.00	$20.00			$25.00	$20.00

Test Price Group	Price Method	Gp. III Rate	Draft New Rate	Associated	Calscience	EMS	Weck	ATL	AETL
Total Dissolved Solids-TDS	SM 2540	$9.64	$21.46	$19.00	$15.00	$32.00	$15.00	$15.00	$20.00
Volatile Suspended Solids	SM 2540	$16.89	$25.74		$45.00	$22.00			$25.00
Total Suspended Solids-TSS	SM 2540D	$9.64	$22.96	$19.00	$15.00	$22.00		$15.00	
Settle Solids (mg/L) (Inc. TSS)	SM 2540F	$0.00	$32.24	$19.00	$15.00	$22.00		$15.00	$20.00
Settle Solids (mL/L)	SM 2540F	$8.24	$21.10	$19.00	$15.00	$22.00		$15.00	$20.00
Temperature	SM 2550	$0.00	$10.94						$5.00
Sodium	SM 3111B	$13.00	$22.43	$18.00	$20.00				
Calcium	SM 3500 Ca B	$13.53	$19.25	$18.00	$20.00				
Potassium	SM 3500 K-D	$13.00	$22.43	$18.00	$20.00				
Magnesium	SM 3500 MG B	$14.23	$16.46	$18.00	$20.00				
Total Kjeldahl Nitrogen	SM 4500	$23.03	$62.67	$29.00	$60.00			$65.00	$45.00
pH	SM 4500 HB	$4.64	$13.77	$13.00	$10.00	$10.00		$15.00	$10.00
Total Phosphate	SM 4500 PE	$37.30	$37.84	$24.00	$50.00	$55.00	$15.00	$65.00	$32.00
Total Phosphate (Dissolve)	SM 4500 PE	$37.30	$37.84	$24.00	$50.00	$55.00	$15.00	$65.00	$32.00
Boron	SM 4500-B B	$14.23	$31.33	$18.00	$20.00	$18.00	$15.00		
Chlorine, Residual	SM 4500Cl	$14.09	$22.65	$18.00	$20.00	$40.00		$45.00	$20.00
Chlorine, Total	SM 4500Cl	$14.09	$22.65	$18.00	$20.00	$40.00		$45.00	$20.00
Cyanide	SM 4500-CN C, E	$51.57	$59.98	$51.00	$45.00	$60.00	$45.00	$65.00	$40.00
Ammonia Nitrogen-D	SM 4500-NH3 D	$7.54	$32.01	$38.00	$50.00			$65.00	$25.00
Ammonia Nitrogen-W	SM 4500-NH3 D	$7.54	$42.62	$38.00	$50.00			$65.00	$25.00
Dissolved Oxygen (SM 4500-OG)	SM 4500-OG	$16.27	$24.84	$19.00				$30.00	$15.00
BOD5/cBOD5 (SM 5210)	SM 5210	$32.53	$53.97	$30.00	$50.00	$55.00	$45.00	$75.00	$50.00
Chemical Oxygen Demand-COD	SM 5220D	$37.30	$42.56	$30.00	$25.00	$40.00		$65.00	$40.00
TOC/DOC (SM 5310)	SM 5310	$26.23	$42.71	$54.00	$40.00		$35.00	$65.00	$35.00
MBAS (Surfactant)	SM 5540C	$22.33	$49.60	$45.00	$50.00			$85.00	$50.00
HPC (Pour Plates)	SM 9215B	$0.00	$30.58	$22.00					
Fecal Coliform (SM 9221)	SM 9221	$25.59	$35.10	$27.00					$30.00
Total Coliform (SM 9221)	SM 9221	$25.59	$43.76	$19.00					$30.00
Colilert (Bacteria Presence/Absence)	SM 9223	$15.43	$24.50						
E. coli (Colilert Quanti-Tray)	SM 9223	$25.59	$27.82						
Enterococcus (SM 9230)	SM 9230	$25.59	$35.10	$27.00					
Streptococus (SM 9230)	SM 9230	$25.59	$35.26	$19.00					
Sulfide	SM4500SE	$11.83	$22.65					$55.00	
TPH (State Draft Method 815)	State Draft M815	$94.95	$97.50						
Lead AA Flame (Leachable)		$14.00	$23.11			$22.00			
Lead AA Flame (Paint)		$10.00	$26.27			$8.00			
Lead AA Flame (Soil)		$10.00	$26.27			$12.00			
Lead AA Flame (Wipe)		$10.00	$23.11			$8.00			
Lead AA Flame (Wrapper)		$14.00	$23.11			$22.00			
Lead GFAA (Food)		$14.00	$21.24			$52.00			
Lead GFAA (Other)		$14.00	$21.24			$52.00			
Lead AA Flame (Solid)		$14.00	$26.27			$12.00			
Sulfite		$11.83							

APPENDIX III - ANALYSIS OF NUMBERS OF TESTS PERFORMED

This appendix contains analyses of the raw data shown in Appendix II, using the most appropriate volume figures, to calculate the:

- Number of different matrices performed in total and by science, i.e. inorganic, organic, microbiological, biological, and tests sent out to other laboratories.
- Number of matrices performed by type of sample, e.g. drinking water, water, food, plant, paint, etc.
- Number of matrices performed by type of sample by month.
- Number of matrices performed in total and by type of sample by client.

Number of Different Matrices Performed (6 pages)

All Customers	Analysis Code	Analysis Description	Matrices
DW - Drinking Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A	4535
DW - Drinking Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A	4535
DW - Drinking Water	4500FCHL-W	FieldChlorine SM4500-CL,Total	4195
WI - Wipe	LEAD-WIPE	Lead on Wipes, E7420	1981
DW - Drinking Water	2130TUR-W	SM 2130B Turbidity, Water	1478
DW - Drinking Water	2120COL-W	Color SM2120 B ,Water	1351
WA - Water	300CL-W	Chloride Anion EPA 300.1,Water	1341
DW - Drinking Water	2120ODR-W	ODOR SM 2150 B,Water	1332
DW - Drinking Water	4500-PH-W	SM4500 PH, Water	1180
DW - Drinking Water	AS-200.8-D	Arsenic, 200.8, Dissolved	679
DW - Drinking Water	524.2THM-D	EPA 524.2 THM List, Drinking W	465
WA - Water	4500-PH-W	SM4500 PH, Water	458
WA - Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W	448
WA - Water	9221TCLI-W	SM9221B Total Coliform MTF, W	448
WA - Water	300NO3-W	Nitrate Anion EPA 300.1,Water	444
WA - Water	300NO2-W	Nitrite Anion EPA 300.1,Water	438
WA - Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	434
WA - Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	431
WA - Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water	424
WA - Water	NH3-4500-W	Ammonia, SM4500D, Water	421
WA - Water	NH3N-4500W	Ammonia-N,4500, Water	421
WA - Water	2540-TDS-W	TDS SM2540C, Water	414
WA - Water	300S04-W	Sulfate Anion EPA 300.1,Water	414
WA - Water	9230-ENT-W	Enterococcus, SM 9230B, Water	390
WA - Water	4500BOR-W	BORON, Water	338
WA - Water	2540TSS-W	TSS SM2540D, Water	335
DW - Drinking Water	HPC-SIM-D	HPC, Idexx Simplate, DW	293
DW - Drinking Water	552.2FUL-D	HAA Full List, 552.2, DW	276
DW - Drinking Water	300NO3-W	Nitrate Anion EPA 300.1,Water	272
DW - Drinking Water	TEMP	Temperature	251
WA - Water	4500KNO-W	Organic Nitrogen SM4500, Water	251
SO - Soil	LEAD-S	Lead in Solid, E7420	244
WA - Water	2130TUR-W	SM 2130B Turbidity, Water	229
WA - Water	1664-W	Oil & Grease EPA 1664 A, Water	224
DW - Drinking Water	LEAD-DW	Lead in Drinking Water,SM3113B	218
WA - Water	5210BOD-W	B-BOD SM5210 B ,Water	218
DW - Drinking Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A	211
DW - Drinking Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A	211
WA - Water	TOTAL-N	Total Nitrogen	191
WW - Waste Water	2540TSS-W	TSS SM2540D, Water	186
WA - Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW	181
WA - Water	418.1TPH-W	TPH, EPA 418.1, Water	178
WA - Water	4500PHO-W	Total Phosphate SM4500-P E, W	177
WA - Water	AL-200.8-D	Aluminum, 200.8, Dissolved	174
WA - Water	CU-200.8-D	Copper, 200.8, Dissolved	174
WA - Water	ZN-200.8-D	Zinc, 200.8, Dissolved	174
WA - Water	CD-200.8-D	Cadmium, 200.8, Dissolved	170
WA - Water	ZN-200.8-W	Zinc, 200.8, Water	167
WA - Water	CU-200.8-W	Copper, 200.8, Water	166
WA - Water	COND-2510	Conductivity, SM2510B, Water	165
WA - Water	CN4500E-W	Cyanide, SM4500-CN E, Water	162
WA - Water	PB-200.8-D	Lead, 200.8, Dissolved	162
WA - Water	300FL-W	Fluoride Anion EPA 300.1,Water	158
WA - Water	FE-200.8-D	Iron, 200.8, Dissolved	158
WA - Water	PB-200.8-W	Lead, 200.8, Water	158
WA - Water	CD-200.8-W	Cadmium, 200.8, Water	156
WA - Water	SE-200.8-D	Selenium, 200.8, Dissolved	154
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All Customers	Analysis Code	Analysis Description	Matrices
WA - Water	AL-200.8-W	Aluminum, 200.8, Water	152
WA - Water	FE-200.8-W	Iron, 200.8, Water	136
WA - Water	SE-200.8-W	Selenium, 200.8, Water	136
DW - Drinking Water	CU-200.8-D	Copper, 200.8, Dissolved	135
WA - Water	5540MBAS-W	MBAS, Water	135
DW - Drinking Water	2540-TDS-W	TDS SM2540C, Water	129
WW - Waste Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W	127
WW - Waste Water	9221TCLI-W	SM9221B Total Coliform MTF, W	127
WA - Water	4500CHL-W	Chlorine SM4500-CLTotal Water	124
DW - Drinking Water	PB-200.8-D	Lead, 200.8, Dissolved	123
WA - Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW	108
WA - Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW	108
DW - Drinking Water	524.2FUL-D	EPA 524.2 Volatiles GCMS	107
WA - Water	2340HARD-W	Hardness SM2340 C,Water	103
WA - Water	9230-STR-W	Streptococcus, SM 9230B, W	98
WA - Water	420PHEN-W	Phenolics EPA 420.1,Water	97
WA - Water	4500-OG-W	SM 4500-O.G, DO Water	97
WA - Water	624-OG-W	EPA Method 624, OG List, Water	94
DW - Drinking Water	ECLI18QT-D	SM9223 E. coli Colilert18QT, D	89
WA - Water	CR-200.8-W	Chromium, 200.8, Water	88
DW - Drinking Water	COND-2510	Conductivity, SM2510B, Water	86
WA - Water	3500K-W	Potassium SM3500 K D ,W	85
WA - Water	3500NA-W	Sodium SM 3500 NA D ,W	85
WA - Water	5310TOC-W	TOC SM 5310 B,Water	85
WA - Water	625-W	EPA Method 625, Water	84
WW - Waste Water	4500-PH-W	SM4500 PH, Water	84
WA - Water	547GLY-W	Glyphosate EPA 547, Water	82
WA - Water	MN-200.8-D	Manganese, 200.8, Dissolved	81
DW - Drinking Water	CN4500E-W	Cyanide, SM4500-CN E, Water	80
WA - Water	AS-200.8-D	Arsenic, 200.8, Dissolved	80
WA - Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW	79
WW - Waste Water	1664-W	Oil & Grease EPA 1664 A, Water	78
WA - Water	245.1DHG-W	Mercury,E245.1,Dissolved Water	77
WA - Water	245.1HG-W	Mercury,E245.1,Water	77
WA - Water	507-NPP-W	EPA 507 N/P Pesticides, Water	77
WA - Water	5220COD-W	COD, Water	77
WA - Water	AG-200.8-D	Silver, 200.8, Dissolved	77
WA - Water	AG-200.8-W	Silver, 200.8, Water	77
WA - Water	AS-200.8-W	Arsenic, 200.8, Water	77
WA - Water	BA-200.8-D	Barium, 200.8, Dissolved	77
WA - Water	BA-200.8-W	Barium, 200.8, Water	77
WA - Water	BE-200.8-D	Beryllium, 200.8, Dissolved	77
WA - Water	BE-200.8-W	Beryllium, 200.8, Water	77
WA - Water	CR-200.8-D	Chromium, 200.8, Dissolved	77
WA - Water	NI-200.8-D	Nickel, 200.8, Dissolved	77
WA - Water	NI-200.8-W	Nickel, 200.8, Water	77
WA - Water	SB-200.8-D	Antimony, 200.8, Dissolved	77
WA - Water	SB-200.8-W	Antimony, 200.8, Water	77
WA - Water	TL-200.8-D	Thallium, 200.8, Dissolved	77
WA - Water	TL-200.8-W	Thallium, 200.8, Water	77
WA - Water	515.3CHA-W	515.3 Chlorinated Acids-W	76
FD - Food	LEAD-F<25	Lead in Food < 25 grams, E7421	75
WA - Water	218CHR6-W	Chromium VI,Water	74
WA - Water	4500FCHL-W	FieldChlorine SM4500-CL,Total	74
WA - Water	4500DPHO-W	Diss.Phosphate SM4500-P E, W	73
WA - Water	608-W	EPA Method 608, Water	73
WA - Water	3500CAMG	Hardness,Ca, Mg,Water	71
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All Customers	Analysis Code	Analysis Description	Matrices
WW - Waste Water	300NO2-W	Nitrite Anion EPA 300.1,Water	71
WW - Waste Water	300NO3-W	Nitrate Anion EPA 300.1,Water	71
WW - Waste Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	71
WW - Waste Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	71
DW - Drinking Water	TCLI18QT-D	SM9223 Total Coliform Clt18QTd	70
WA - Water	218DCHR6-W	Chromium VI, Dissolved, Water	70
WA - Water	2540VSS-W	VSS SM2540 E ,Water	70
DW - Drinking Water	507-NPHP-D	EPA 507 Herbicide Pesticide	69
DW - Drinking Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	69
WW - Waste Water	NH3N-4500W	Ammonia-N,4500, Water	69
WA - Water	507-NPHP-D	EPA 507 Herbicide Pesticide	68
DW - Drinking Water	4500-OG-W	SM 4500-O.G, DO Water	67
DW - Drinking Water	5310TOC-W	TOC SM 5310 B,Water	67
DW - Drinking Water	300BRO3-W	Bromate EPA 300.1,Water	66
WA - Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A	66
WA - Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A	66
WW - Waste Water	5210BOD-W	B-BOD SM5210 B ,Water	66
WW - Waste Water	NH3-4500-W	Ammonia, SM4500D, Water	66
DW - Drinking Water	300CLO2-W	Chlorite EPA 300.1,Water	65
WA - Water	300PO4P-W	Phosphate Anion EPA300.1,Water	65
WW - Waste Water	2540-TDS-W	TDS SM2540C, Water	63
WW - Waste Water	300S04-W	Sulfate Anion EPA 300.1,Water	63
WA - Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	62
WW - Waste Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water	62
WW - Waste Water	4500KNO-W	Organic Nitrogen SM4500, Water	61
WA - Water	MN-200.8-W	Manganese, 200.8, Water	59
WW - Waste Water	300CL-W	Chloride Anion EPA 300.1,Water	59
WW - Waste Water	4500BOR-W	BORON, Water	59
DW - Drinking Water	FE-200.8-D	Iron, 200.8, Dissolved	57
DW - Drinking Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	56
WA - Water	624-WMCUST	EPA 624 Watershed Custom List	55
WW - Waste Water	4500CHL-W	Chlorine SM4500-CLTotal Water	54
WW - Waste Water	5540MBAS-W	MBAS, Water	52
WW - Waste Water	300PO4P-W	Phosphate Anion EPA300.1,Water	51
DW - Drinking Water	908URA-W	Uranium EPA 908 , Water	47
DW - Drinking Water	900ALPHA-W	Gross Alpha EPA 900.0, Water	45
WA - Water	ECLI18QT-W	SM9223 E. coli Colilert18QT, W	45
DW - Drinking Water	903RAD226W	Total Alpha Rad EPA 903.0Water	43
DW - Drinking Water	RA228-W	Radium 228 EPA RA-05, Water	43
DW - Drinking Water	300NO2-W	Nitrite Anion EPA 300.1,Water	38
WA - Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D	34
WA - Water	9221TCLI-D	SM9221B, Total Coliform MTF, D	34
DW - Drinking Water	505-OHPA-D	EPA Method 505 , DW	33
DW - Drinking Water	MN-200.8-D	Manganese, 200.8, Dissolved	29
WA - Water	3500CA-W	Calcium SM 3500 CA B ,Water	28
WA - Water	624-W	EPA Method 624,Full List,Water	28
WA - Water	9230-ENT-D	Enterococcus, SM 9230B, DW	28
DW - Drinking Water	507-NPP-D	EPA 507 N/P Pesticides	27
DW - Drinking Water	504.1-D	EPA Method 504.1 , DW	26
DW - Drinking Water	314CL4-W	Perchlorate EPA 314.0,Water	24
DW - Drinking Water	515.3CHA-D	515.3 Chlorinated Acids-DW	24
DW - Drinking Water	531.1CBM-D	Carbamates EPA 531.1, DW	24
DW - Drinking Water	625-W	EPA Method 625, Water	24
DW - Drinking Water	AL-200.8-D	Aluminum, 200.8, Dissolved	24
WA - Water	TEMP	Temperature	24
DW - Drinking Water	245.1HG-W	Mercury,E245.1,Water	23
DW - Drinking Water	BA-200.8-D	Barium, 200.8, Dissolved	23
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All Customers	Analysis Code	Analysis Description	Matrices
DW - Drinking Water	CD-200.8-D	Cadmium, 200.8, Dissolved	23
DW - Drinking Water	CR-200.8-D	Chromium, 200.8, Dissolved	23
DW - Drinking Water	SE-200.8-D	Selenium, 200.8, Dissolved	23
WA - Water	TOXSEAUR-W	Toxicity Sea Urchin, Water	23
WA - Water	TOXWFLEA-W	Toxicity Water Flea, Water	23
DW - Drinking Water	1613B-D	Dioxin TCDD EPA 1613 B, DWater	22
DW - Drinking Water	300CL-W	Chloride Anion EPA 300.1,Water	22
DW - Drinking Water	300S04-W	Sulfate Anion EPA 300.1,Water	22
DW - Drinking Water	548-D	Endothall EPA 548, DWater	22
DW - Drinking Water	549.2-D	Diquat & Paraquat EPA549.2, DW	22
DW - Drinking Water	AG-200.8-D	Silver, 200.8, Dissolved	22
DW - Drinking Water	ZN-200.8-D	Zinc, 200.8, Dissolved	22
DW - Drinking Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW	21
DW - Drinking Water	300FL-W	Fluoride Anion EPA 300.1,Water	20
DW - Drinking Water	5540MBAS-W	MBAS, Water	20
DW - Drinking Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW	20
DW - Drinking Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW	20
DW - Drinking Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW	20
DW - Drinking Water	NI-200.8-D	Nickel, 200.8, Dissolved	20
DW - Drinking Water	SB-200.8-D	Antimony, 200.8, Dissolved	20
DW - Drinking Water	TL-200.8-D	Thallium, 200.8, Dissolved	20
DW - Drinking Water	524.2SIM-D	EPA 524.2SIM 1,2,3-TCP , DW	19
DW - Drinking Water	BE-200.8-D	Beryllium, 200.8, Dissolved	18
MI - Miscellaneous	LEAD-WRAP	Lead in Wrapper, AOAC	18
DW - Drinking Water	3500NA-W	Sodium SM 3500 NA D ,W	16
MI - Miscellaneous	LEAD-S	Lead in Solid, E7420	16
PC - Paint Chip	LEAD-PC	Lead in Paint Chips,E7420	15
DW - Drinking Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	14
WA - Water	3500MG-W	Magnesium SM 3500 MG B ,Water	14
DW - Drinking Water	3500CAMG	Hardness,Ca, Mg,Water	12
DW - Drinking Water	NH3-4500-D	Ammonia,SM4500D,Drinking Water	11
WA - Water	624-WR-W	EPA Meth 624,WaterRsrc, Water	11
WA - Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A	11
WA - Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A	11
DW - Drinking Water	547GLY-D	Glyphosate EPA 547, DW	10
WA - Water	2540SS-W	Setteable Solids SM2540F,Water	10
WA - Water	TOXACUTE-W	Acute Toxicity, Water	10
WA - Water	5210CBOD-W	CBOD SM5210 B ,Water	9
DW - Drinking Water	100.2ASB-D	Asbestos,E100.2,Drinking Water	8
DW - Drinking Water	3500K-W	Potassium SM3500 K D ,W	8
DW - Drinking Water	4500BOR-W	BORON, Water	8
DW - Drinking Water	RSK-175-D	Diss Methane,Ethane,Ethylene	8
O - Others	LEAD-S	Lead in Solid, E7420	8
SO - Soil	245Hg-S	Mercury, SW	8
SO - Soil	3050As-S	Arsenic, EPA 7060A, Solid	8
SO - Soil	3050Cd-S	Cadmium, EPA 7130, Solid	8
SO - Soil	3050Cu-S	Copper, EPA 7210, Solid	8
SO - Soil	3050Mo-S	Molybdenum EPA 7481, Solid	8
SO - Soil	3050Ni-S	Nickel, EPA 7520, Solid	8
SO - Soil	3050Pb-S	Lead EPA 7420, Solid	8
SO - Soil	3050Se-S	Selenium EPA 7740, Solid	8
SO - Soil	3050Zn-S	Zinc, EPA 7950, Solid	8
WW - Waste Water	5310TOC-W	TOC SM 5310 B,Water	8
DW - Drinking Water	218CHR6-W	Chromium VI,Water	7
DW - Drinking Water	3500CA-W	Calcium SM 3500 CA B ,Water	7
DW - Drinking Water	ECLI24QT-D	SM9223 E. coli Colilert24QT, D	7
FD - Food	LEAD-S	Lead in Solid, E7420	7
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All Customers	Analysis Code	Analysis Description	Matrices
MI - Miscellaneous	LEAD-F<25	Lead in Food < 25 grams, E7421	7
WA - Water	1625-NDMA	NDMA, EPA 1625CM, Water	7
WA - Water	314CL4-W	Perchlorate EPA 314.0,Water	7
WA - Water	624MTBE-W	EPA Method 624 MTBE GCMS, W	7
WA - Water	ENTRLTQT-W	Enterococcus, Quantitray, W	7
DW - Drinking Water	2340HARD-W	Hardness SM2340 C,Water	6
DW - Drinking Water	3500MG-W	Magnesium SM 3500 MG B ,Water	6
DW - Drinking Water	LANGELIER	Langelier Index Calculation	6
DW - Drinking Water	TCLI24QT-D	SM9223 Total Coliform Clt24QTd	6
DW - Drinking Water	218DCHR6-W	Chromium VI, Dissolved, Water	5
DW - Drinking Water	4500CHL-W	Chlorine SM4500-CLTotal Water	5
DW - Drinking Water	524.2GAD-D	GAD EPA 524.2, Drinking Water	5
DW - Drinking Water	524MTBE-D	EPA Method 524 MTBE GCMS, DW	5
DW - Drinking Water	547GLY-W	Glyphosate EPA 547, Water	5
FD - Food	MRS-CB	MRS N-Methylcarbamate Pest.	5
FD - Food	MRS-CH	MRS Organohalogen Pesticide	5
FD - Food	MRS-OP	MRS Organophosphate Pesticide	5
FD - Food	MRS-PY	MRS Pyrethroids Pesticide	5
O - Others	245Hg-S	Mercury, SW	5
WA - Water	ECLI24QT-W	SM9223 E. coli Colilert24QT, W	5
WW - Waste Water	300FL-W	Fluoride Anion EPA 300.1,Water	5
WW - Waste Water	ZN-200.8-W	Zinc, 200.8, Water	5
DW - Drinking Water	300PO4P-W	Phosphate Anion EPA300.1,Water	4
DW - Drinking Water	NH3N-4500D	Ammonia-N,4500,Drinking Water	4
PL - Plant	MRS-CB	MRS N-Methylcarbamate Pest.	4
SO - Soil	300NO3-S	Nitrate EPA 300.0, Soil	4
SO - Soil	3050Ag-S	Silver, EPA 7761, Solid	4
SO - Soil	3050AL-S	Aluminum, EPA 3113 B, Solid	4
SO - Soil	3050Ba-S	Barium, EPA 7081, Solid	4
SO - Soil	3050Be-S	Beryllium, EPA 7091, Solid	4
SO - Soil	3050Fe-S	Iron EPA 7380, Solid	4
SO - Soil	3050Mn-S	Manganese , EPA 7460, Solid	4
SO - Soil	3050Sb-S	Antimony, EPA 7041, Solid	4
SO - Soil	3050Tl-S	Thallium, EPA 7841, Solid	4
SO - Soil	3050V-S	Vanadium, EPA 7911, Solid	4
SO - Soil	4500KNO-S	Organic Nitrogen SM4500, Soil	4
SO - Soil	NH3-4500-S	Ammonia,4500, Soil	4
SO - Soil	NH3N-4500S	Ammonia-N, SM4500, Soil	4
SO - Soil	NO3-N-S	Nitrate-N Anion EPA 300.1,Soil	4
WA - Water	505-OHPA-D	EPA Method 505 , DW	4
WW - Waste Water	1613B-W	Dioxin TCDD EPA 1613 B, Water	4
WW - Waste Water	245.1HG-W	Mercury,E245.1,Water	4
WW - Waste Water	4500PHO-W	Total Phosphate SM4500-P E, W	4
WW - Waste Water	624-SM-W	EPA Meth 624,SewerMaint, Water	4
WW - Waste Water	CN4500E-W	Cyanide, SM4500-CN E, Water	4
DW - Drinking Water	2007SIL-W	Silica EPA 200.7,Water	3
DW - Drinking Water	8015MDSL-D	Diesel EPA 8015M,DrinkingWater	3
DW - Drinking Water	8015MGSL-D	Gasoline EPA 8015M, DW	3
DW - Drinking Water	V-200.8-D	Vanadium, 200.8, Dissolved	3
P - Paint	LEAD-PC	Lead in Paint Chips,E7420	3
WA - Water	4500SULF-W	Sulfide SM 4500-S E,Water	3
WA - Water	531.1CBM-W	Carbamates EPA 531.1, Water	3
WI - Wipe	691PY-Wipe	Pyrethroids Scan, Wipe	3
WW - Waste Water	608-WW	EPA Method 608, Waste Water	3
WW - Waste Water	624AC-W	EPA 624 Acrln & Acryl, W	3
WW - Waste Water	625-WW	EPA Method 625, Waste Water	3
WW - Waste Water	AG-200.8-W	Silver, 200.8, Water	3
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All Customers	Analysis Code	Analysis Description	Matrices
WW - Waste Water	AS-200.8-W	Arsenic, 200.8, Water	3
WW - Waste Water	BE-200.8-W	Beryllium, 200.8, Water	3
WW - Waste Water	CD-200.8-W	Cadmium, 200.8, Water	3
WW - Waste Water	CR-200.8-W	Chromium, 200.8, Water	3
WW - Waste Water	CU-200.8-W	Copper, 200.8, Water	3
WW - Waste Water	NI-200.8-W	Nickel, 200.8, Water	3
WW - Waste Water	PB-200.8-W	Lead, 200.8, Water	3
WW - Waste Water	SB-200.8-W	Antimony, 200.8, Water	3
WW - Waste Water	SE-200.8-W	Selenium, 200.8, Water	3
WW - Waste Water	TL-200.8-W	Thallium, 200.8, Water	3
DW - Drinking Water	3500K-D	Potassium SM3500 K D, D	2
DW - Drinking Water	3500NA-D	Sodium SM 3500 NA D, D	2
DW - Drinking Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D	2
DW - Drinking Water	9221TCLI-D	SM9221B, Total Coliform MTF, D	2
DW - Drinking Water	ASTM-D5504	D5504 Reduced Sulfur Analysis	2
DW - Drinking Water	CO-200.8-D	Cobalt, 200.8, Dissolved	2
DW - Drinking Water	MO-200.8-D	Molybdenum, 200.8, Dissolved	2
SO - Soil	KN-4500-S	Kjeldahl-N, SM4500org C, Soil	2
WI - Wipe	3050Cu-S	Copper, EPA 7210, Solid	2
WW - Waste Water	2130TUR-W	SM 2130B Turbidity, Water	2
WW - Waste Water	2540SS-W	Setteable Solids SM2540F,Water	2
DW - Drinking Water	525.2FL-D	EPA 525.2 SOC Full List, DW	1
DW - Drinking Water	900BETA-W	Gross Beta EPA 900.0, Water	1
DW - Drinking Water	9230-ENT-D	Enterococcus, SM 9230B, DW	1
FD - Food	SO3-AOAC-F	Sulfite,AOAC 961.09,Food	1
O - Others	691PY-Soil	Pyrethroids Scan, Soil	1
SO - Soil	691PY-Soil	Pyrethroids Scan, Soil	1
WA - Water	1623-W	Giardia EPA 1623, Water	1
WW - Waste Water	420PHEN-W	Phenolics EPA 420.1,Water	1
WW - Waste Water	4500SULF-W	Sulfide SM 4500-S E,Water	1
WW - Waste Water	504.1-D	EPA Method 504.1 , DW	1
WW - Waste Water	505-OHPA-D	EPA Method 505 , DW	1
WW - Waste Water	507-NPP-W	EPA 507 N/P Pesticides, Water	1
WW - Waste Water	515.3CHA-W	515.3 Chlorinated Acids-W	1
WW - Waste Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	1
WW - Waste Water	531.1CBM-W	Carbamates EPA 531.1, Water	1
WW - Waste Water	547GLY-D	Glyphosate EPA 547, DW	1
WW - Waste Water	548-D	Endothall EPA 548, DWater	1
WW - Waste Water	549.2-D	Diquat & Paraquat EPA549.2, DW	1
WW - Waste Water	900ALPHA-W	Gross Alpha EPA 900.0, Water	1
WW - Waste Water	903RAD226W	Total Alpha Rad EPA 903.0Water	1
WW - Waste Water	908URA-W	Uranium EPA 908 , Water	1
WW - Waste Water	AL-200.8-D	Aluminum, 200.8, Dissolved	1
WW - Waste Water	AS-200.8-D	Arsenic, 200.8, Dissolved	1
WW - Waste Water	BA-200.8-D	Barium, 200.8, Dissolved	1
WW - Waste Water	BE-200.8-D	Beryllium, 200.8, Dissolved	1
WW - Waste Water	CD-200.8-D	Cadmium, 200.8, Dissolved	1
WW - Waste Water	CR-200.8-D	Chromium, 200.8, Dissolved	1
WW - Waste Water	NI-200.8-D	Nickel, 200.8, Dissolved	1
WW - Waste Water	RA228-W	Radium 228 EPA RA-05, Water	1
WW - Waste Water	SB-200.8-D	Antimony, 200.8, Dissolved	1
WW - Waste Water	SE-200.8-D	Selenium, 200.8, Dissolved	1
WW - Waste Water	TEMP	Temperature	1
WW - Waste Water	TL-200.8-D	Thallium, 200.8, Dissolved	1
WW - Waste Water	TOTAL-N	Total Nitrogen	1
		TOTAL	44698
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**Number of Matrices Performed by Science,
and Number of Different Matrices Sent Out (6 pages)**

All Customers	Analysis Code	Science	Sent Out	Matrices
WA - Water	TOXACUTE-W	Biology	S	10
DW - Drinking Water	4500FCHL-W	Inorganic		4195
WI - Wipe	LEAD-WIPE	Inorganic		1981
DW - Drinking Water	2130TUR-W	Inorganic		1478
DW - Drinking Water	2120COL-W	Inorganic		1351
WA - Water	300CL-W	Inorganic		1341
DW - Drinking Water	2120ODR-W	Inorganic		1332
DW - Drinking Water	4500-PH-W	Inorganic		1180
DW - Drinking Water	AS-200.8-D	Inorganic		679
WA - Water	4500-PH-W	Inorganic		458
WA - Water	300NO3-W	Inorganic		444
WA - Water	300NO2-W	Inorganic		438
WA - Water	NO3-N-W	Inorganic		434
WA - Water	NO2-N-W	Inorganic		431
WA - Water	KN-4500-W	Inorganic		424
WA - Water	NH3-4500-W	Inorganic		421
WA - Water	NH3N-4500W	Inorganic		421
WA - Water	2540-TDS-W	Inorganic		414
WA - Water	300S04-W	Inorganic		414
WA - Water	4500BOR-W	Inorganic		338
WA - Water	2540TSS-W	Inorganic		335
DW - Drinking Water	300NO3-W	Inorganic		272
DW - Drinking Water	TEMP	Inorganic		251
WA - Water	4500KNO-W	Inorganic		251
SO - Soil	LEAD-S	Inorganic		244
WA - Water	2130TUR-W	Inorganic		229
DW - Drinking Water	LEAD-DW	Inorganic		218
WA - Water	TOTAL-N	Inorganic		191
WW - Waste Water	2540TSS-W	Inorganic		186
WA - Water	ALKT2320-W	Inorganic		181
WA - Water	418.1TPH-W	Inorganic		178
WA - Water	4500PHO-W	Inorganic		177
WA - Water	AL-200.8-D	Inorganic		174
WA - Water	CU-200.8-D	Inorganic		174
WA - Water	ZN-200.8-D	Inorganic		174
WA - Water	CD-200.8-D	Inorganic		170
WA - Water	ZN-200.8-W	Inorganic		167
WA - Water	CU-200.8-W	Inorganic		166
WA - Water	COND-2510	Inorganic		165
WA - Water	CN4500E-W	Inorganic		162
WA - Water	PB-200.8-D	Inorganic		162
WA - Water	300FL-W	Inorganic		158
WA - Water	FE-200.8-D	Inorganic		158
WA - Water	PB-200.8-W	Inorganic		158
WA - Water	CD-200.8-W	Inorganic		156
WA - Water	SE-200.8-D	Inorganic		154
WA - Water	AL-200.8-W	Inorganic		152
WA - Water	FE-200.8-W	Inorganic		136
WA - Water	SE-200.8-W	Inorganic		136
DW - Drinking Water	CU-200.8-D	Inorganic		135
WA - Water	5540MBAS-W	Inorganic		135
DW - Drinking Water	2540-TDS-W	Inorganic		129
WA - Water	4500CHL-W	Inorganic		124
DW - Drinking Water	PB-200.8-D	Inorganic		123
WA - Water	ALKB2320-W	Inorganic		108
WA - Water	ALKO2320-W	Inorganic		108
WA - Water	2340HARD-W	Inorganic		103
WA - Water	420PHEN-W	Inorganic		97
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All Customers	Analysis Code	Science	Sent Out	Matrices
WA - Water	CR-200.8-W	Inorganic		88
DW - Drinking Water	COND-2510	Inorganic		86
WA - Water	3500K-W	Inorganic		85
WA - Water	3500NA-W	Inorganic		85
WW - Waste Water	4500-PH-W	Inorganic		84
WA - Water	MN-200.8-D	Inorganic		81
DW - Drinking Water	CN4500E-W	Inorganic		80
WA - Water	AS-200.8-D	Inorganic		80
WA - Water	ALKC2320-W	Inorganic		79
WA - Water	245.1DHG-W	Inorganic		77
WA - Water	245.1HG-W	Inorganic		77
WA - Water	5220COD-W	Inorganic		77
WA - Water	AG-200.8-D	Inorganic		77
WA - Water	AG-200.8-W	Inorganic		77
WA - Water	AS-200.8-W	Inorganic		77
WA - Water	BA-200.8-D	Inorganic		77
WA - Water	BA-200.8-W	Inorganic		77
WA - Water	BE-200.8-D	Inorganic		77
WA - Water	BE-200.8-W	Inorganic		77
WA - Water	CR-200.8-D	Inorganic		77
WA - Water	NI-200.8-D	Inorganic		77
WA - Water	NI-200.8-W	Inorganic		77
WA - Water	SB-200.8-D	Inorganic		77
WA - Water	SB-200.8-W	Inorganic		77
WA - Water	TL-200.8-D	Inorganic		77
WA - Water	TL-200.8-W	Inorganic		77
FD - Food	LEAD-F<25	Inorganic		75
WA - Water	218CHR6-W	Inorganic		74
WA - Water	4500FCHL-W	Inorganic		74
WA - Water	4500DPHO-W	Inorganic		73
WA - Water	3500CAMG	Inorganic		71
WW - Waste Water	300NO2-W	Inorganic		71
WW - Waste Water	300NO3-W	Inorganic		71
WW - Waste Water	NO2-N-W	Inorganic		71
WW - Waste Water	NO3-N-W	Inorganic		71
WA - Water	218DCHR6-W	Inorganic		70
WA - Water	2540VSS-W	Inorganic		70
WW - Waste Water	NH3N-4500W	Inorganic		69
DW - Drinking Water	300BRO3-W	Inorganic	S	66
WW - Waste Water	NH3-4500-W	Inorganic		66
DW - Drinking Water	300CLO2-W	Inorganic	S	65
WA - Water	300PO4P-W	Inorganic		65
WW - Waste Water	2540-TDS-W	Inorganic		63
WW - Waste Water	300S04-W	Inorganic		63
WW - Waste Water	KN-4500-W	Inorganic		62
WW - Waste Water	4500KNO-W	Inorganic		61
WA - Water	MN-200.8-W	Inorganic		59
WW - Waste Water	300CL-W	Inorganic		59
WW - Waste Water	4500BOR-W	Inorganic		59
DW - Drinking Water	FE-200.8-D	Inorganic		57
DW - Drinking Water	NO3-N-W	Inorganic		56
WW - Waste Water	4500CHL-W	Inorganic		54
WW - Waste Water	5540MBAS-W	Inorganic		52
WW - Waste Water	300PO4P-W	Inorganic		51
DW - Drinking Water	908URA-W	Inorganic	S	47
DW - Drinking Water	900ALPHA-W	Inorganic	S	45
DW - Drinking Water	903RAD226W	Inorganic	S	43
DW - Drinking Water	RA228-W	Inorganic	S	43
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All Customers	Analysis Code	Science	Sent Out	Matrices
DW - Drinking Water	300NO2-W	Inorganic		38
DW - Drinking Water	MN-200.8-D	Inorganic		29
WA - Water	3500CA-W	Inorganic		28
DW - Drinking Water	314CL4-W	Inorganic		24
DW - Drinking Water	AL-200.8-D	Inorganic		24
WA - Water	TEMP	Inorganic		24
DW - Drinking Water	245.1HG-W	Inorganic		23
DW - Drinking Water	BA-200.8-D	Inorganic		23
DW - Drinking Water	CD-200.8-D	Inorganic		23
DW - Drinking Water	CR-200.8-D	Inorganic		23
DW - Drinking Water	SE-200.8-D	Inorganic		23
WA - Water	TOXSEAUR-W	Inorganic	S	23
WA - Water	TOXWFLEA-W	Inorganic	S	23
DW - Drinking Water	300CL-W	Inorganic		22
DW - Drinking Water	300S04-W	Inorganic		22
DW - Drinking Water	AG-200.8-D	Inorganic		22
DW - Drinking Water	ZN-200.8-D	Inorganic		22
DW - Drinking Water	ALKT2320-W	Inorganic		21
DW - Drinking Water	300FL-W	Inorganic		20
DW - Drinking Water	5540MBAS-W	Inorganic		20
DW - Drinking Water	ALKB2320-W	Inorganic		20
DW - Drinking Water	ALKC2320-W	Inorganic		20
DW - Drinking Water	ALKO2320-W	Inorganic		20
DW - Drinking Water	NI-200.8-D	Inorganic		20
DW - Drinking Water	SB-200.8-D	Inorganic		20
DW - Drinking Water	TL-200.8-D	Inorganic		20
DW - Drinking Water	BE-200.8-D	Inorganic		18
MI - Miscellaneous	LEAD-WRAP	Inorganic		18
DW - Drinking Water	3500NA-W	Inorganic		16
MI - Miscellaneous	LEAD-S	Inorganic		16
PC - Paint Chip	LEAD-PC	Inorganic		15
DW - Drinking Water	NO2-N-W	Inorganic		14
WA - Water	3500MG-W	Inorganic		14
DW - Drinking Water	3500CAMG	Inorganic		12
DW - Drinking Water	NH3-4500-D	Inorganic		11
WA - Water	2540SS-W	Inorganic		10
DW - Drinking Water	100.2ASB-D	Inorganic	S	8
DW - Drinking Water	3500K-W	Inorganic		8
DW - Drinking Water	4500BOR-W	Inorganic		8
O - Others	LEAD-S	Inorganic		8
SO - Soil	245Hg-S	Inorganic		8
SO - Soil	3050As-S	Inorganic		8
SO - Soil	3050Cd-S	Inorganic		8
SO - Soil	3050Cu-S	Inorganic		8
SO - Soil	3050Mo-S	Inorganic		8
SO - Soil	3050Ni-S	Inorganic		8
SO - Soil	3050Pb-S	Inorganic		8
SO - Soil	3050Se-S	Inorganic		8
SO - Soil	3050Zn-S	Inorganic		8
DW - Drinking Water	218CHR6-W	Inorganic		7
DW - Drinking Water	3500CA-W	Inorganic		7
FD - Food	LEAD-S	Inorganic		7
MI - Miscellaneous	LEAD-F<25	Inorganic		7
WA - Water	314CL4-W	Inorganic		7
DW - Drinking Water	2340HARD-W	Inorganic		6
DW - Drinking Water	3500MG-W	Inorganic		6
DW - Drinking Water	LANGELIER	Inorganic		6
DW - Drinking Water	218DCHR6-W	Inorganic		5
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All Customers	Analysis Code	Science	Sent Out	Matrices
DW - Drinking Water	4500CHL-W	Inorganic		5
O - Others	245Hg-S	Inorganic		5
WW - Waste Water	300FL-W	Inorganic		5
WW - Waste Water	ZN-200.8-W	Inorganic		5
DW - Drinking Water	300PO4P-W	Inorganic		4
DW - Drinking Water	NH3N-4500D	Inorganic		4
SO - Soil	300NO3-S	Inorganic		4
SO - Soil	3050Ag-S	Inorganic		4
SO - Soil	3050AL-S	Inorganic		4
SO - Soil	3050Ba-S	Inorganic		4
SO - Soil	3050Be-S	Inorganic		4
SO - Soil	3050Fe-S	Inorganic		4
SO - Soil	3050Mn-S	Inorganic		4
SO - Soil	3050Sb-S	Inorganic		4
SO - Soil	3050Tl-S	Inorganic		4
SO - Soil	3050V-S	Inorganic		4
SO - Soil	4500KNO-S	Inorganic		4
SO - Soil	NH3-4500-S	Inorganic		4
SO - Soil	NH3N-4500S	Inorganic		4
SO - Soil	NO3-N-S	Inorganic		4
WW - Waste Water	245.1HG-W	Inorganic		4
WW - Waste Water	4500PHO-W	Inorganic		4
WW - Waste Water	CN4500E-W	Inorganic		4
DW - Drinking Water	2007SIL-W	Inorganic	S	3
DW - Drinking Water	V-200.8-D	Inorganic		3
P - Paint	LEAD-PC	Inorganic		3
WA - Water	4500SULF-W	Inorganic		3
WW - Waste Water	AG-200.8-W	Inorganic		3
WW - Waste Water	AS-200.8-W	Inorganic		3
WW - Waste Water	BE-200.8-W	Inorganic		3
WW - Waste Water	CD-200.8-W	Inorganic		3
WW - Waste Water	CR-200.8-W	Inorganic		3
WW - Waste Water	CU-200.8-W	Inorganic		3
WW - Waste Water	NI-200.8-W	Inorganic		3
WW - Waste Water	PB-200.8-W	Inorganic		3
WW - Waste Water	SB-200.8-W	Inorganic		3
WW - Waste Water	SE-200.8-W	Inorganic		3
WW - Waste Water	TL-200.8-W	Inorganic		3
DW - Drinking Water	3500K-D	Inorganic		2
DW - Drinking Water	3500NA-D	Inorganic		2
DW - Drinking Water	ASTM-D5504	Inorganic	S	2
DW - Drinking Water	CO-200.8-D	Inorganic		2
DW - Drinking Water	MO-200.8-D	Inorganic		2
SO - Soil	KN-4500-S	Inorganic		2
WI - Wipe	3050Cu-S	Inorganic		2
WW - Waste Water	2130TUR-W	Inorganic		2
WW - Waste Water	2540SS-W	Inorganic		2
DW - Drinking Water	900BETA-W	Inorganic	S	1
FD - Food	SO3-AOAC-F	Inorganic		1
WW - Waste Water	420PHEN-W	Inorganic		1
WW - Waste Water	4500SULF-W	Inorganic		1
WW - Waste Water	900ALPHA-W	Inorganic	S	1
WW - Waste Water	903RAD226W	Inorganic	S	1
WW - Waste Water	908URA-W	Inorganic	S	1
WW - Waste Water	AL-200.8-D	Inorganic		1
WW - Waste Water	AS-200.8-D	Inorganic		1
WW - Waste Water	BA-200.8-D	Inorganic		1
WW - Waste Water	BE-200.8-D	Inorganic		1
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All Customers	Analysis Code	Science	Sent Out	Matrices
WW - Waste Water	CD-200.8-D	Inorganic		1
WW - Waste Water	CR-200.8-D	Inorganic		1
WW - Waste Water	NI-200.8-D	Inorganic		1
WW - Waste Water	RA228-W	Inorganic	S	1
WW - Waste Water	SB-200.8-D	Inorganic		1
WW - Waste Water	SE-200.8-D	Inorganic		1
WW - Waste Water	TEMP	Inorganic		1
WW - Waste Water	TL-200.8-D	Inorganic		1
WW - Waste Water	TOTAL-N	Inorganic		1
DW - Drinking Water	FCLT18PA-D	MicroBiology		4535
DW - Drinking Water	TCLT18PA-D	MicroBiology		4535
WA - Water	9221FCLI-W	MicroBiology		448
WA - Water	9221TCLI-W	MicroBiology		448
WA - Water	9230-ENT-W	MicroBiology		390
DW - Drinking Water	HPC-SIM-D	MicroBiology		293
DW - Drinking Water	FCLT24PA-D	MicroBiology		211
DW - Drinking Water	TCLT24PA-D	MicroBiology		211
WW - Waste Water	9221FCLI-W	MicroBiology		127
WW - Waste Water	9221TCLI-W	MicroBiology		127
WA - Water	9230-STR-W	MicroBiology		98
DW - Drinking Water	ECLI18QT-D	MicroBiology		89
DW - Drinking Water	TCLI18QT-D	MicroBiology		70
WA - Water	FCLT18PA-D	MicroBiology		66
WA - Water	TCLT18PA-D	MicroBiology		66
WA - Water	ECLI18QT-W	MicroBiology		45
WA - Water	9221FCLI-D	MicroBiology		34
WA - Water	9221TCLI-D	MicroBiology		34
WA - Water	9230-ENT-D	MicroBiology		28
WA - Water	FCLT24PA-D	MicroBiology		11
WA - Water	TCLT24PA-D	MicroBiology		11
DW - Drinking Water	ECLI24QT-D	MicroBiology		7
WA - Water	ENTRLTQT-W	MicroBiology		7
DW - Drinking Water	TCLI24QT-D	MicroBiology		6
FD - Food	MRS-CB	MicroBiology		5
FD - Food	MRS-CH	MicroBiology		5
FD - Food	MRS-OP	MicroBiology		5
FD - Food	MRS-PY	MicroBiology		5
WA - Water	ECLI24QT-W	MicroBiology		5
PL - Plant	MRS-CB	MicroBiology		4
DW - Drinking Water	9221FCLI-D	MicroBiology		2
DW - Drinking Water	9221TCLI-D	MicroBiology		2
DW - Drinking Water	9230-ENT-D	MicroBiology		1
DW - Drinking Water	524.2THM-D	Organic		465
DW - Drinking Water	552.2FUL-D	Organic		276
WA - Water	1664-W	Organic		224
WA - Water	5210BOD-W	Organic		218
DW - Drinking Water	524.2FUL-D	Organic		107
WA - Water	4500-OG-W	Organic		97
WA - Water	624-OG-W	Organic		94
WA - Water	5310TOC-W	Organic		85
WA - Water	625-W	Organic		84
WA - Water	547GLY-W	Organic		82
WW - Waste Water	1664-W	Organic		78
WA - Water	507-NPP-W	Organic		77
WA - Water	515.3CHA-W	Organic		76
WA - Water	608-W	Organic		73
DW - Drinking Water	507-NPHP-D	Organic		69
DW - Drinking Water	525.2SH-D	Organic	S	69
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All Customers	Analysis Code	Science	Sent Out	Matrices
WA - Water	507-NPHP-D	Organic		68
DW - Drinking Water	4500-OG-W	Organic		67
DW - Drinking Water	5310TOC-W	Organic		67
WW - Waste Water	5210BOD-W	Organic		66
WA - Water	525.2SH-D	Organic	S	62
WA - Water	624-WMCUST	Organic		55
DW - Drinking Water	505-OHPA-D	Organic		33
WA - Water	624-W	Organic		28
DW - Drinking Water	507-NPP-D	Organic		27
DW - Drinking Water	504.1-D	Organic	S	26
DW - Drinking Water	515.3CHA-D	Organic		24
DW - Drinking Water	531.1CBM-D	Organic		24
DW - Drinking Water	625-W	Organic		24
DW - Drinking Water	1613B-D	Organic	S	22
DW - Drinking Water	548-D	Organic	S	22
DW - Drinking Water	549.2-D	Organic	S	22
DW - Drinking Water	524.2SIM-D	Organic	S	19
WA - Water	624-WR-W	Organic		11
DW - Drinking Water	547GLY-D	Organic		10
WA - Water	5210CBOD-W	Organic		9
DW - Drinking Water	RSK-175-D	Organic	S	8
WW - Waste Water	5310TOC-W	Organic		8
WA - Water	1625-NDMA	Organic	S	7
WA - Water	624MTBE-W	Organic		7
DW - Drinking Water	524.2GAD-D	Organic		5
DW - Drinking Water	524MTBE-D	Organic		5
DW - Drinking Water	547GLY-W	Organic		5
WA - Water	505-OHPA-D	Organic		4
WW - Waste Water	1613B-W	Organic	S	4
WW - Waste Water	624-SM-W	Organic		4
DW - Drinking Water	8015MDSL-D	Organic	S	3
DW - Drinking Water	8015MGSL-D	Organic	S	3
WA - Water	531.1CBM-W	Organic		3
WI - Wipe	691PY-Wipe	Organic		3
WW - Waste Water	608-WW	Organic		3
WW - Waste Water	624AC-W	Organic	S	3
WW - Waste Water	625-WW	Organic		3
DW - Drinking Water	525.2FL-D	Organic	S	1
O - Others	691PY-Soil	Organic		1
SO - Soil	691PY-Soil	Organic		1
WA - Water	1623-W	Organic	S	1
WW - Waste Water	504.1-D	Organic	S	1
WW - Waste Water	505-OHPA-D	Organic		1
WW - Waste Water	507-NPP-W	Organic		1
WW - Waste Water	515.3CHA-W	Organic		1
WW - Waste Water	525.2SH-D	Organic	S	1
WW - Waste Water	531.1CBM-W	Organic		1
WW - Waste Water	547GLY-D	Organic		1
WW - Waste Water	548-D	Organic	S	1
WW - Waste Water	549.2-D	Organic	S	1
Total Matrices				**44,698**
Number of Different Matrices			**36**	**340**
Totals	**Science**	**Analyses**	**Sent Out**	**Matrices**
Total	**Biology**	**1**	1	10
Total	**Inorganic**	**240**	16	29,806
Total	**Microbiology**	**33**	0	11,931
Total	**Organic**	**66**	19	2,951
Total	**All Types**	**340**	**36**	**44,698**
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Number of Matrices Performed by Type of Sample by Month (6 pages)

All Customers	Analysis Code	Analysis Description	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12
DW - Drinking Water	100.2ASB-D	Asbestos,E100.2,Drinking Water			2	1	1	1		2	1				**8**
DW - Drinking Water	1613B-D	Dioxin TCDD EPA 1613 B, DWater				1		5	3	4	3	2	4		**22**
DW - Drinking Water	2007SIL-W	Silica EPA 200.7,Water					1			2					**3**
DW - Drinking Water	2120COL-W	Color SM2120 B ,Water	122	102	107	124	96	120	119	92	127	132	92	118	**1351**
DW - Drinking Water	2120ODR-W	ODOR SM 2150 B,Water	122	102	107	124	96	119	118	91	112	131	93	117	**1332**
DW - Drinking Water	2130TUR-W	SM 2130B Turbidity, Water	124	108	117	133	105	128	130	101	136	147	110	139	**1478**
DW - Drinking Water	218CHR6-W	Chromium VI,Water			3		1			3					**7**
DW - Drinking Water	218DCHR6-W	Chromium VI, Dissolved, Water								4	1				**5**
DW - Drinking Water	2340HARD-W	Hardness SM2340 C,Water				1				2			3		**6**
DW - Drinking Water	245.1HG-W	Mercury,E245.1,Water			7	1	1	2		5	5		2		**23**
DW - Drinking Water	2540-TDS-W	TDS SM2540C, Water	5	7	18	10	9	11	11	12	12	9	13	12	**129**
DW - Drinking Water	300BRO3-W	Bromate EPA 300.1,Water	2	4	6	5	5	5	8	6	5	5	6	9	**66**
DW - Drinking Water	300CLO2-W	Chlorite EPA 300.1,Water	2	4	6	5	5	5	8	5	5	5	6	9	**65**
DW - Drinking Water	300CL-W	Chloride Anion EPA 300.1,Water			5	2	1	2		4	4	1	3		**22**
DW - Drinking Water	300FL-W	Fluoride Anion EPA 300.1,Water			5	2	1	2		4	4		2		**20**
DW - Drinking Water	300NO2-W	Nitrite Anion EPA 300.1,Water			4	4	1	4	4	5	3	1	12		**38**
DW - Drinking Water	300NO3-W	Nitrate Anion EPA 300.1,Water	22	16	21	18	31	26	28	23	23	23	24	17	**272**
DW - Drinking Water	300PO4P-W	Phosphate Anion EPA300.1,Water			3								1		**4**
DW - Drinking Water	300S04-W	Sulfate Anion EPA 300.1,Water			5	2	1	2		4	4	1	3		**22**
DW - Drinking Water	314CL4-W	Perchlorate EPA 314.0,Water			4	4	5	5		3				3	**24**
DW - Drinking Water	3500CAMG	Hardness,Ca, Mg,Water			2	1	1	2		2	4				**12**
DW - Drinking Water	3500CA-W	Calcium SM 3500 CA B ,Water				1	1			2			3		**7**
DW - Drinking Water	3500K-D	Potassium SM3500 K D, D						1					1		**2**
DW - Drinking Water	3500K-W	Potassium SM3500 K D ,W			2	2	1	1		2					**8**
DW - Drinking Water	3500MG-W	Magnesium SM 3500 MG B ,Water				1				2			3		**6**
DW - Drinking Water	3500NA-D	Sodium SM 3500 NA D, D						1		1					**2**
DW - Drinking Water	3500NA-W	Sodium SM 3500 NA D ,W			2	2	1	1		4	4		2		**16**
DW - Drinking Water	4500BOR-W	BORON, Water			2	2	1			2		1			**8**
DW - Drinking Water	4500CHL-W	Chlorine SM4500-CLTotal Water								1	1	1	1	1	**5**
DW - Drinking Water	4500FCHL-W	FieldChlorine SM4500-CL,Total	350	308	381	345	322	364	357	307	385	360	322	394	**4195**
DW - Drinking Water	4500-OG-W	SM 4500-O.G, DO Water	2	4	6	5	5	5	8	5	7	5	6	9	**67**
DW - Drinking Water	4500-PH-W	SM4500 PH, Water	105	95	106	89	89	96	98	99	106	92	91	114	**1180**
DW - Drinking Water	504.1-D	EPA Method 504.1 , DW	1			5	1	2	3	7	1	2	4		**26**
DW - Drinking Water	505-OHPA-D	EPA Method 505 , DW			3	4	1	2	9	7	1	2	4		**33**
DW - Drinking Water	507-NPHP-D	EPA 507 Herbicide Pesticide				21	2	2	3	17	5	3	13	3	**69**
DW - Drinking Water	507-NPP-D	EPA 507 N/P Pesticides			2	4	1	2	3	7	1	1	6		**27**
DW - Drinking Water	515.3CHA-D	515.3 Chlorinated Acids-DW				4	1	2	3	7	1	2	4		**24**
DW - Drinking Water	524.2FUL-D	EPA 524.2 Volatiles GCMS		3	8	1	8	14	14	5	25	14	15		**107**
DW - Drinking Water	524.2GAD-D	GAD EPA 524.2, Drinking Water			2		1			2					**5**
DW - Drinking Water	524.2SIM-D	EPA 524.2SIM 1,2,3-TCP , DW	4			4	1		4	2		4			**19**
DW - Drinking Water	524.2THM-D	EPA 524.2 THM List, Drinking W	48	40	49	52	34	40	38	29	29	48	13	45	**465**
DW - Drinking Water	524MTBE-D	EPA Method 524 MTBE GCMS, DW								2			3		**5**
DW - Drinking Water	525.2FL-D	EPA 525.2 SOC Full List, DW											1		**1**
DW - Drinking Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW				24	4	2	3	16	1	3	13	3	**69**
DW - Drinking Water	531.1CBM-D	Carbamates EPA 531.1, DW				4	1	2	3	7	1	2	4		**24**
DW - Drinking Water	5310TOC-W	TOC SM 5310 B,Water	2	4	8	5	5	5	8	5	5	5	6	9	**67**
DW - Drinking Water	547GLY-D	Glyphosate EPA 547, DW				1	1			3	1	4			**10**
DW - Drinking Water	547GLY-W	Glyphosate EPA 547, Water										5			**5**
DW - Drinking Water	548-D	Endothall EPA 548, DWater				4	1	2	3	6		2	4		**22**
DW - Drinking Water	549.2-D	Diquat & Paraquat EPA549.2, DW				4	1	2	3	6		2	4		**22**
DW - Drinking Water	552.2FUL-D	HAA Full List, 552.2, DW	20	11	41	24	5	36	26	17	26	30	10	30	**276**
DW - Drinking Water	5540MBAS-W	MBAS, Water			4	2	1	2		5	5		1		**20**
DW - Drinking Water	625-W	EPA Method 625, Water		3	3	3		2	3	4		2	4		**24**
DW - Drinking Water	8015MDSL-D	Diesel EPA 8015M,DrinkingWater					1			2					**3**
DW - Drinking Water	8015MGSL-D	Gasoline EPA 8015M, DW					1			2					**3**
DW - Drinking Water	900ALPHA-W	Gross Alpha EPA 900.0, Water	1	2	3	1	2	8	1	6	6	4	11		**45**
DW - Drinking Water	900BETA-W	Gross Beta EPA 900.0, Water					1								**1**
															Page 1

All Customers	Analysis Code	Analysis Description	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12
DW - Drinking Water	903RAD226W	Total Alpha Rad EPA 903.0Water	1	2	3	1	2	8	1	5	6	4	10		**43**
DW - Drinking Water	908URA-W	Uranium EPA 908 , Water	1	2	3	1	2	8	2	6	6	4	12		**47**
DW - Drinking Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D										1		1	**2**
DW - Drinking Water	9221TCLI-D	SM9221B, Total Coliform MTF, D										1		1	**2**
DW - Drinking Water	9230-ENT-D	Enterococcus, SM 9230B, DW										1			**1**
DW - Drinking Water	AG-200.8-D	Silver, 200.8, Dissolved			8	1	1	2		4	4		2		**22**
DW - Drinking Water	AL-200.8-D	Aluminum, 200.8, Dissolved			8	1	1	2		5	5		2		**24**
DW - Drinking Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW			2	2	1	2		4	4	4	1		**20**
DW - Drinking Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW			2	2	1	2		4	4	4	1		**20**
DW - Drinking Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW			2	2	1	2		4	4	4	1		**20**
DW - Drinking Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW			2	2	1	2		4	4	4	2		**21**
DW - Drinking Water	AS-200.8-D	Arsenic, 200.8, Dissolved	40	37	54	49	43	56	51	63	80	63	67	76	**679**
DW - Drinking Water	ASTM-D5504	D5504 Reduced Sulfur Analysis											2		**2**
DW - Drinking Water	BA-200.8-D	Barium, 200.8, Dissolved			8	1	1	2		5	5		1		**23**
DW - Drinking Water	BE-200.8-D	Beryllium, 200.8, Dissolved			5	1	1	2		4	4		1		**18**
DW - Drinking Water	CD-200.8-D	Cadmium, 200.8, Dissolved			8	1	1	2		5	5		1		**23**
DW - Drinking Water	CN4500E-W	Cyanide, SM4500-CN E, Water			2	1	1	18	19	13	16	6	4		**80**
DW - Drinking Water	CO-200.8-D	Cobalt, 200.8, Dissolved								1	1				**2**
DW - Drinking Water	COND-2510	Conductivity, SM2510B, Water	2	4	11	7	6	7	8	9	9	5	9	9	**86**
DW - Drinking Water	CR-200.8-D	Chromium, 200.8, Dissolved			8	1	1	2		5	5		1		**23**
DW - Drinking Water	CU-200.8-D	Copper, 200.8, Dissolved	4		18	1	1	2		16	70	21	2		**135**
DW - Drinking Water	ECLI18QT-D	SM9223 E. coli Colilert18QT, D	1	4	14	4	4	2	4	15	4	11	12	14	**89**
DW - Drinking Water	ECLI24QT-D	SM9223 E. coli Colilert24QT, D	1		2			2			2				**7**
DW - Drinking Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A	370	330	423	372	340	328	397	349	442	395	349	440	**4535**
DW - Drinking Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A	13	13	9	7	49	88	5		7	5	5	10	**211**
DW - Drinking Water	FE-200.8-D	Iron, 200.8, Dissolved		3	8	1	4	3	1	7	18	6	5	1	**57**
DW - Drinking Water	HPC-SIM-D	HPC, Idexx Simplate, DW	26	11	25	42	13	30	31	9	26	47	12	21	**293**
DW - Drinking Water	LANGELIER	Langelier Index Calculation			2		1	1		2					**6**
DW - Drinking Water	LEAD-DW	Lead in Drinking Water,SM3113B	10	16	6	32	18	16	12	24	24	24	22	14	**218**
DW - Drinking Water	MN-200.8-D	Manganese, 200.8, Dissolved			8	1	1	3	1	5	5	1	3	1	**29**
DW - Drinking Water	MO-200.8-D	Molybdenum, 200.8, Dissolved								1	1				**2**
DW - Drinking Water	NH3-4500-D	Ammonia,SM4500D,Drinking Water									2	4	5		**11**
DW - Drinking Water	NH3N-4500D	Ammonia-N,4500,Drinking Water										4			**4**
DW - Drinking Water	NI-200.8-D	Nickel, 200.8, Dissolved			5	1	1	2		5	5		1		**20**
DW - Drinking Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	0		1	2	1	2	3	5	0				**14**
DW - Drinking Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	4	7	8	8	7	8	8	5		1			**56**
DW - Drinking Water	PB-200.8-D	Lead, 200.8, Dissolved	4		16	1	1			14	66	21			**123**
DW - Drinking Water	RA228-W	Radium 228 EPA RA-05, Water	1	2	3	1	2	8	1	5	6	4	10		**43**
DW - Drinking Water	RSK-175-D	Diss Methane,Ethane,Ethylene				1			4				3		**8**
DW - Drinking Water	SB-200.8-D	Antimony, 200.8, Dissolved			5	1	1	2		5	5		1		**20**
DW - Drinking Water	SE-200.8-D	Selenium, 200.8, Dissolved			8	1	1	2		5	5		1		**23**
DW - Drinking Water	TCLI18QT-D	SM9223 Total Coliform Clt18QTd		4	14	4	4	2	4	15	4	9	4	6	**70**
DW - Drinking Water	TCLI24QT-D	SM9223 Total Coliform Clt24QTd			2			2			2				**6**
DW - Drinking Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A	370	330	423	372	340	328	397	349	442	395	349	440	**4535**
DW - Drinking Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A	13	13	9	7	49	88	5		7	5	5	10	**211**
DW - Drinking Water	TEMP	Temperature	19	10	4	40	12	28	31	8	11	53	12	23	**251**
DW - Drinking Water	TL-200.8-D	Thallium, 200.8, Dissolved			5	1	1	2		5	5		1		**20**
DW - Drinking Water	V-200.8-D	Vanadium, 200.8, Dissolved					1			1	1				**3**
DW - Drinking Water	ZN-200.8-D	Zinc, 200.8, Dissolved			8	1	1	2		4	4		2		**22**
FD - Food	LEAD-F<25	Lead in Food < 25 grams, E7421	3	1	9	7	1	3	1	9	5	3	30	3	**75**
FD - Food	LEAD-S	Lead in Solid, E7420						1		5		1			**7**
FD - Food	MRS-CB	MRS N-Methylcarbamate Pest.								5					**5**
FD - Food	MRS-CH	MRS Organohalogen Pesticide								5					**5**
FD - Food	MRS-OP	MRS Organophosphate Pesticide								5					**5**
FD - Food	MRS-PY	MRS Pyrethroids Pesticide								5					**5**
FD - Food	SO3-AOAC-F	Sulfite,AOAC 961.09,Food								1					**1**
MI - Miscellaneous	LEAD-F<25	Lead in Food < 25 grams, E7421				6							1		**7**
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MI - Miscellaneous	LEAD-S	Lead in Solid, E7420			6	6				2			1	1	**16**
MI - Miscellaneous	LEAD-WRAP	Lead in Wrapper, AOAC			1	2				4	1		8	2	**18**
O - Others	245Hg-S	Mercury, SW							5						**5**
O - Others	691PY-Soil	Pyrethroids Scan, Soil	1												**1**
O - Others	LEAD-S	Lead in Solid, E7420							6		2				**8**
P - Paint	LEAD-PC	Lead in Paint Chips,E7420									3				**3**
PC - Paint Chip	LEAD-PC	Lead in Paint Chips,E7420	1	2		1			4	2	1		1	3	**15**
PL - Plant	MRS-CB	MRS N-Methylcarbamate Pest.					4								**4**
SO - Soil	245Hg-S	Mercury, SW	2							6					**8**
SO - Soil	300NO3-S	Nitrate EPA 300.0, Soil	2							2					**4**
SO - Soil	3050Ag-S	Silver, EPA 7761, Solid								4					**4**
SO - Soil	3050AL-S	Aluminum, EPA 3113 B, Solid								4					**4**
SO - Soil	3050As-S	Arsenic, EPA 7060A, Solid	2							6					**8**
SO - Soil	3050Ba-S	Barium, EPA 7081, Solid								4					**4**
SO - Soil	3050Be-S	Beryllium, EPA 7091, Solid								4					**4**
SO - Soil	3050Cd-S	Cadmium, EPA 7130, Solid	2							6					**8**
SO - Soil	3050Cu-S	Copper, EPA 7210, Solid	2							6					**8**
SO - Soil	3050Fe-S	Iron EPA 7380, Solid								4					**4**
SO - Soil	3050Mn-S	Manganese , EPA 7460, Solid								4					**4**
SO - Soil	3050Mo-S	Molybdenum EPA 7481, Solid	2							6					**8**
SO - Soil	3050Ni-S	Nickel, EPA 7520, Solid	2							6					**8**
SO - Soil	3050Pb-S	Lead EPA 7420, Solid	2							6					**8**
SO - Soil	3050Sb-S	Antimony, EPA 7041, Solid								4					**4**
SO - Soil	3050Se-S	Selenium EPA 7740, Solid	2							6					**8**
SO - Soil	3050Tl-S	Thallium, EPA 7841, Solid								4					**4**
SO - Soil	3050V-S	Vanadium, EPA 7911, Solid								4					**4**
SO - Soil	3050Zn-S	Zinc, EPA 7950, Solid	2							6					**8**
SO - Soil	4500KNO-S	Organic Nitrogen SM4500, Soil	2							2					**4**
SO - Soil	691PY-Soil	Pyrethroids Scan, Soil	1												**1**
SO - Soil	KN-4500-S	Kjeldahl-N, SM4500org C, Soil								2					**2**
SO - Soil	LEAD-S	Lead in Solid, E7420	10	12	12	28	18	9	19	17	16	36	31	36	**244**
SO - Soil	NH3-4500-S	Ammonia,4500, Soil	2							2					**4**
SO - Soil	NH3N-4500S	Ammonia-N, SM4500, Soil	2							2					**4**
SO - Soil	NO3-N-S	Nitrate-N Anion EPA 300.1,Soil	2							2					**4**
WA - Water	1623-W	Giardia EPA 1623, Water												1	**1**
WA - Water	1625-NDMA	NDMA, EPA 1625CM, Water	2				1		2		2				**7**
WA - Water	1664-W	Oil & Grease EPA 1664 A, Water	51	10	44	2	37	28	4	9	11	5		23	**224**
WA - Water	2130TUR-W	SM 2130B Turbidity, Water	43	15	39	13	27	35	10	9	11	2	1	24	**229**
WA - Water	218CHR6-W	Chromium VI,Water	22		26		7			4				15	**74**
WA - Water	218DCHR6-W	Chromium VI, Dissolved, Water	22		26		7							15	**70**
WA - Water	2340HARD-W	Hardness SM2340 C,Water	35		26		14	1		8		4		15	**103**
WA - Water	245.1DHG-W	Mercury,E245.1,Dissolved Water	22		26		7			4				18	**77**
WA - Water	245.1HG-W	Mercury,E245.1,Water	22		26		7			4				18	**77**
WA - Water	2540SS-W	Setteable Solids SM2540F,Water	1	1	1	1	1	1	1			1	1	1	**10**
WA - Water	2540-TDS-W	TDS SM2540C, Water	61	29	49	48	34	53	22	12	50	5	4	47	**414**
WA - Water	2540TSS-W	TSS SM2540D, Water	57	24	54	17	40	49	15	21	14	14	8	22	**335**
WA - Water	2540VSS-W	VSS SM2540 E ,Water	22		26		7							15	**70**
WA - Water	300CL-W	Chloride Anion EPA 300.1,Water	59	30	50	79	**35**	203	67	187	137	172	74	248	**1341**
WA - Water	300FL-W	Fluoride Anion EPA 300.1,Water	35	6	38	4	26	27		4				18	**158**
WA - Water	300NO2-W	Nitrite Anion EPA 300.1,Water	64	29	50	47	38	53	22	19	55	10	4	47	**438**
WA - Water	300NO3-W	Nitrate Anion EPA 300.1,Water	68	29	50	48	38	53	23	19	55	10	4	47	**444**
WA - Water	300PO4P-W	Phosphate Anion EPA300.1,Water	3	3	8	7	7	3	3	8	8	3	3	9	**65**
WA - Water	300S04-W	Sulfate Anion EPA 300.1,Water	58	29	49	48	34	53	22	12	50	5	4	50	**414**
WA - Water	314CL4-W	Perchlorate EPA 314.0,Water	2				1		2		2				**7**
WA - Water	3500CAMG	Hardness,Ca, Mg,Water	7	6	12	4	16	26							**71**
WA - Water	3500CA-W	Calcium SM 3500 CA B ,Water	6				9	1		8		4			**28**
WA - Water	3500K-W	Potassium SM3500 K D ,W	13	6	12	4	19	27		4					**85**
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All Customers	Analysis Code	Analysis Description	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12
WA - Water	3500MG-W	Magnesium SM 3500 MG B ,Water	6				3	1		4					**14**
WA - Water	3500NA-W	Sodium SM 3500 NA D ,W	13	6	12	4	19	27		4					**85**
WA - Water	418.1TPH-W	TPH, EPA 418.1, Water	47	8	42		28	28		4				21	**178**
WA - Water	420PHEN-W	Phenolics EPA 420.1,Water	31		34	1	9					1		21	**97**
WA - Water	4500BOR-W	BORON, Water	36	29	23	45	27	53	22	12	50	5	4	32	**338**
WA - Water	4500CHL-W	Chlorine SM4500-CLTotal Water	13	11	8	15	4	10	10	8	22	4	5	14	**124**
WA - Water	4500DPHO-W	Diss.Phosphate SM4500-P E, W	22		26		7							18	**73**
WA - Water	4500FCHL-W	FieldChlorine SM4500-CL,Total	2	9	3	8	13	1	4	13	5	2	9	5	**74**
WA - Water	4500KNO-W	Organic Nitrogen SM4500, Water	21	22	11	42	7	25	21	8	55	5	3	31	**251**
WA - Water	4500-OG-W	SM 4500-O.G, DO Water	33		34		9							21	**97**
WA - Water	4500PHO-W	Total Phosphate SM4500-P E, W	39	6	39	4	30	27	1	8		5		18	**177**
WA - Water	4500-PH-W	SM4500 PH, Water	65	33	51	51	39	54	27	22	51	11	5	49	**458**
WA - Water	4500SULF-W	Sulfide SM 4500-S E,Water	1			1						1			**3**
WA - Water	505-OHPA-D	EPA Method 505 , DW								4					**4**
WA - Water	507-NPHP-D	EPA 507 Herbicide Pesticide			1		17	7	21	18	3	1			**68**
WA - Water	507-NPP-W	EPA 507 N/P Pesticides, Water	22		27		7		1	4		1		15	**77**
WA - Water	515.3CHA-W	515.3 Chlorinated Acids-W	22		27		7		1			1		18	**76**
WA - Water	5210BOD-W	B-BOD SM5210 B ,Water	34	13	36	17	13	12	14	18	19	6	7	29	**218**
WA - Water	5210CBOD-W	CBOD SM5210 B ,Water									8			1	**9**
WA - Water	5220COD-W	COD, Water	22		26		7			4				18	**77**
WA - Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	1				17	7	20	14	3				**62**
WA - Water	531.1CBM-W	Carbamates EPA 531.1, Water			1				1			1			**3**
WA - Water	5310TOC-W	TOC SM 5310 B,Water	22	5	26	3	7			4				18	**85**
WA - Water	547GLY-W	Glyphosate EPA 547, Water	22		27		7		1	4		3		18	**82**
WA - Water	5540MBAS-W	MBAS, Water	26	3	34	8	10	3	3	12	8	4	3	21	**135**
WA - Water	608-W	EPA Method 608, Water	22		27		7		1			1		15	**73**
WA - Water	624MTBE-W	EPA Method 624 MTBE GCMS, W	2				1		2		2				**7**
WA - Water	624-OG-W	EPA Method 624, OG List, Water	30		34		9							21	**94**
WA - Water	624-W	EPA Method 624,Full List,Water	17	8					2	1					**28**
WA - Water	624-WMCUST	EPA 624 Watershed Custom List			8		19	28							**55**
WA - Water	624-WR-W	EPA Meth 624,WaterRsrc, Water	2				1		2	4	2				**11**
WA - Water	625-W	EPA Method 625, Water	24		26		8		2	4	2			18	**84**
WA - Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D	2	1	3	7	5	1	4	1	5	1	1	3	**34**
WA - Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W	72	36	50	41	41	53	20	22	46	14	3	50	**448**
WA - Water	9221TCLI-D	SM9221B, Total Coliform MTF, D	2	1	3	7	5	1	4	1	5	1	1	3	**34**
WA - Water	9221TCLI-W	SM9221B Total Coliform MTF, W	72	36	50	41	41	53	20	22	46	14	3	50	**448**
WA - Water	9230-ENT-D	Enterococcus, SM 9230B, DW	2	1	3	3	5	1	2	1	5	1	1	3	**28**
WA - Water	9230-ENT-W	Enterococcus, SM 9230B, Water	66	33	42	38	38	50	17	14	38	11		43	**390**
WA - Water	9230-STR-W	Streptococcus, SM 9230B, W	30		34		9			4				21	**98**
WA - Water	AG-200.8-D	Silver, 200.8, Dissolved	22		26		7			4				18	**77**
WA - Water	AG-200.8-W	Silver, 200.8, Water	22		26		7			4				18	**77**
WA - Water	AL-200.8-D	Aluminum, 200.8, Dissolved	39	6	38	4	30	27		8		4		18	**174**
WA - Water	AL-200.8-W	Aluminum, 200.8, Water	39	6	38		24	15		8		4		18	**152**
WA - Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW	17	6	12	4	23	27	2	13		4			**108**
WA - Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW	17	6	6	4	12	15	2	13		4			**79**
WA - Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW	17	6	12	4	23	27	2	13		4			**108**
WA - Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW	42	6	38	4	30	27	2	13		4		15	**181**
WA - Water	AS-200.8-D	Arsenic, 200.8, Dissolved	22		27		7	1		4				19	**80**
WA - Water	AS-200.8-W	Arsenic, 200.8, Water	22		26		7			4				18	**77**
WA - Water	BA-200.8-D	Barium, 200.8, Dissolved	22		26		7			4				18	**77**
WA - Water	BA-200.8-W	Barium, 200.8, Water	22		26		7			4				18	**77**
WA - Water	BE-200.8-D	Beryllium, 200.8, Dissolved	22		26		7			4				18	**77**
WA - Water	BE-200.8-W	Beryllium, 200.8, Water	22		26		7			4				18	**77**
WA - Water	CD-200.8-D	Cadmium, 200.8, Dissolved	39	6	38		30	27		8		4		18	**170**
WA - Water	CD-200.8-W	Cadmium, 200.8, Water	39	6	38		24	15	2	10		4		18	**156**
WA - Water	CN4500E-W	Cyanide, SM4500-CN E, Water	42	8	42		21	16		8		4		21	**162**
WA - Water	COND-2510	Conductivity, SM2510B, Water	35	11	39	7	26	27	1			1		18	**165**
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WA - Water	CR-200.8-D	Chromium, 200.8, Dissolved	22		26		7			4				18	**77**
WA - Water	CR-200.8-W	Chromium, 200.8, Water	24		26		8		4	6	2			18	**88**
WA - Water	CU-200.8-D	Copper, 200.8, Dissolved	39	6	38	4	30	27		8		4		18	**174**
WA - Water	CU-200.8-W	Copper, 200.8, Water	44	6	38		25	15	4	10	2	4		18	**166**
WA - Water	ECLI18QT-W	SM9223 E. coli Colilert18QT, W		6			6		2	5		10		16	**45**
WA - Water	ECLI24QT-W	SM9223 E. coli Colilert24QT, W												5	**5**
WA - Water	ENTRLTQT-W	Enterococcus, Quantitray, W							2	5					**7**
WA - Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A	1	8			8	11		8	9		8	13	**66**
WA - Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A			9									2	**11**
WA - Water	FE-200.8-D	Iron, 200.8, Dissolved	35	6	38	4	26	27		4				18	**158**
WA - Water	FE-200.8-W	Iron, 200.8, Water	35	6	38		20	15		4				18	**136**
WA - Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water	60	28	49	42	37	52	21	19	55	9	3	49	**424**
WA - Water	MN-200.8-D	Manganese, 200.8, Dissolved	13	6	12	4	19	27							**81**
WA - Water	MN-200.8-W	Manganese, 200.8, Water	13	6	12		13	15							**59**
WA - Water	NH3-4500-W	Ammonia, SM4500D, Water	60	28	49	42	37	52	21	16	55	9	3	49	**421**
WA - Water	NH3N-4500W	Ammonia-N,4500, Water	60	28	49	42	37	52	21	16	55	9	3	49	**421**
WA - Water	NI-200.8-D	Nickel, 200.8, Dissolved	22		26		7			4				18	**77**
WA - Water	NI-200.8-W	Nickel, 200.8, Water	22		26		7			4				18	**77**
WA - Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	64	29	50	47	38	53	22	12	55	10	4	47	**431**
WA - Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	65	29	50	48	38	53	23	12	55	10	4	47	**434**
WA - Water	PB-200.8-D	Lead, 200.8, Dissolved	39	6	38		22	27		8		4		18	**162**
WA - Water	PB-200.8-W	Lead, 200.8, Water	44	6	38		17	15	4	10	2	4		18	**158**
WA - Water	SB-200.8-D	Antimony, 200.8, Dissolved	22		26		7			4				18	**77**
WA - Water	SB-200.8-W	Antimony, 200.8, Water	22		26		7			4				18	**77**
WA - Water	SE-200.8-D	Selenium, 200.8, Dissolved	35	6	38		26	27		4				18	**154**
WA - Water	SE-200.8-W	Selenium, 200.8, Water	35	6	38		20	15		4				18	**136**
WA - Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A	1	8			8	11		8	9		8	13	**66**
WA - Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A			9									2	**11**
WA - Water	TEMP	Temperature	2	2	2	2	2	2	2	1	1	3	2	3	**24**
WA - Water	TL-200.8-D	Thallium, 200.8, Dissolved	22		26		7			4				18	**77**
WA - Water	TL-200.8-W	Thallium, 200.8, Water	22		26		7			4				18	**77**
WA - Water	TOTAL-N	Total Nitrogen	18	19		38	4	22	17	8	38	5		22	**191**
WA - Water	TOXACUTE-W	Acute Toxicity, Water	3				1		2		2		2		**10**
WA - Water	TOXSEAUR-W	Toxicity Sea Urchin, Water			7		7							9	**23**
WA - Water	TOXWFLEA-W	Toxicity Water Flea, Water			7		7							9	**23**
WA - Water	ZN-200.8-D	Zinc, 200.8, Dissolved	39	6	38	4	30	27		8		4		18	**174**
WA - Water	ZN-200.8-W	Zinc, 200.8, Water	40	7	39	1	25	16	3	10		5	1	20	**167**
WI - Wipe	3050Cu-S	Copper, EPA 7210, Solid							2						**2**
WI - Wipe	691PY-Wipe	Pyrethroids Scan, Wipe			3										**3**
WI - Wipe	LEAD-WIPE	Lead on Wipes, E7420	164	205	107	154	164	195	84	149	160	218	174	207	**1981**
WW - Waste Water	1613B-W	Dioxin TCDD EPA 1613 B, Water	1						2					1	**4**
WW - Waste Water	1664-W	Oil & Grease EPA 1664 A, Water	8	5	6	7	6	5	9	6	7	6	6	7	**78**
WW - Waste Water	2130TUR-W	SM 2130B Turbidity, Water								1	1				**2**
WW - Waste Water	245.1HG-W	Mercury,E245.1,Water	1						2					1	**4**
WW - Waste Water	2540SS-W	Setteable Solids SM2540F,Water								1	1				**2**
WW - Waste Water	2540-TDS-W	TDS SM2540C, Water	6	2	9	4	3	2	11	6	4	10	3	3	**63**
WW - Waste Water	2540TSS-W	TSS SM2540D, Water	16	12	22	12	13	12	22	14	16	19	13	15	**186**
WW - Waste Water	300CL-W	Chloride Anion EPA 300.1,Water	5	2	9	3	3	2	10	6	4	9	3	3	**59**
WW - Waste Water	300FL-W	Fluoride Anion EPA 300.1,Water	3							2					**5**
WW - Waste Water	300NO2-W	Nitrite Anion EPA 300.1,Water	6	2	9	4	11	2	11	6	4	10	3	3	**71**
WW - Waste Water	300NO3-W	Nitrate Anion EPA 300.1,Water	6	2	9	4	11	2	11	6	4	10	3	3	**71**
WW - Waste Water	300PO4P-W	Phosphate Anion EPA300.1,Water	4	2	9	2	3	2	10	3	2	9	3	2	**51**
WW - Waste Water	300S04-W	Sulfate Anion EPA 300.1,Water	6	2	9	4	3	2	11	6	4	10	3	3	**63**
WW - Waste Water	420PHEN-W	Phenolics EPA 420.1,Water							1						**1**
WW - Waste Water	4500BOR-W	BORON, Water	4	2	9	4	3	2	11	4	4	10	3	3	**59**
WW - Waste Water	4500CHL-W	Chlorine SM4500-CLTotal Water	5	4	5	4	4	4	6	4	5	4	4	5	**54**
WW - Waste Water	4500KNO-W	Organic Nitrogen SM4500, Water	3	2	9	4	10	2	11	2	3	10	2	3	**61**
															Page 5

All Customers	Analysis Code	Analysis Description	Nov11 Total	Dec11 Total	Jan12 Total	Feb12 Total	Mar12 Total	Apr12 Total	May12 Total	Jun12 Total	Jul12 Total	Aug12 Total	Sep12 Total	Oct12 Total	Nov11-Oct12
WW - Waste Water	4500PHO-W	Total Phosphate SM4500-P E, W	2							2					**4**
WW - Waste Water	4500-PH-W	SM4500 PH, Water	8	4	12	4	5	4	12	8	6	11	5	5	**84**
WW - Waste Water	4500SULF-W	Sulfide SM 4500-S E,Water							1						**1**
WW - Waste Water	504.1-D	EPA Method 504.1 , DW	1												**1**
WW - Waste Water	505-OHPA-D	EPA Method 505 , DW	1												**1**
WW - Waste Water	507-NPP-W	EPA 507 N/P Pesticides, Water	1												**1**
WW - Waste Water	515.3CHA-W	515.3 Chlorinated Acids-W	1												**1**
WW - Waste Water	5210BOD-W	B-BOD SM5210 B ,Water	1		7		1		16	14	4	7	1	15	**66**
WW - Waste Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	1												**1**
WW - Waste Water	531.1CBM-W	Carbamates EPA 531.1, Water	1												**1**
WW - Waste Water	5310TOC-W	TOC SM 5310 B,Water	1			1	1		1	1	1		1	1	**8**
WW - Waste Water	547GLY-D	Glyphosate EPA 547, DW	1												**1**
WW - Waste Water	548-D	Endothall EPA 548, DWater	1												**1**
WW - Waste Water	549.2-D	Diquat & Paraquat EPA549.2, DW	1												**1**
WW - Waste Water	5540MBAS-W	MBAS, Water	5	2	9	2	2	2	11	4	2	9	2	2	**52**
WW - Waste Water	608-WW	EPA Method 608, Waste Water							2					1	**3**
WW - Waste Water	624AC-W	EPA 624 Acrln & Acryl, W							2					1	**3**
WW - Waste Water	624-SM-W	EPA Meth 624,SewerMaint, Water	1						2					1	**4**
WW - Waste Water	625-WW	EPA Method 625, Waste Water							2					1	**3**
WW - Waste Water	900ALPHA-W	Gross Alpha EPA 900.0, Water												1	**1**
WW - Waste Water	903RAD226W	Total Alpha Rad EPA 903.0Water												1	**1**
WW - Waste Water	908URA-W	Uranium EPA 908 , Water												1	**1**
WW - Waste Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W	10	8	17	8	8	8	17	8	10	15	8	10	**127**
WW - Waste Water	9221TCLI-W	SM9221B Total Coliform MTF, W	10	8	17	8	8	8	17	8	10	15	8	10	**127**
WW - Waste Water	AG-200.8-W	Silver, 200.8, Water							2					1	**3**
WW - Waste Water	AL-200.8-D	Aluminum, 200.8, Dissolved	1												**1**
WW - Waste Water	AS-200.8-D	Arsenic, 200.8, Dissolved	1												**1**
WW - Waste Water	AS-200.8-W	Arsenic, 200.8, Water							2					1	**3**
WW - Waste Water	BA-200.8-D	Barium, 200.8, Dissolved	1												**1**
WW - Waste Water	BE-200.8-D	Beryllium, 200.8, Dissolved	1												**1**
WW - Waste Water	BE-200.8-W	Beryllium, 200.8, Water							2					1	**3**
WW - Waste Water	CD-200.8-D	Cadmium, 200.8, Dissolved	1												**1**
WW - Waste Water	CD-200.8-W	Cadmium, 200.8, Water							2					1	**3**
WW - Waste Water	CN4500E-W	Cyanide, SM4500-CN E, Water	1						2					1	**4**
WW - Waste Water	CR-200.8-D	Chromium, 200.8, Dissolved	1												**1**
WW - Waste Water	CR-200.8-W	Chromium, 200.8, Water							2					1	**3**
WW - Waste Water	CU-200.8-W	Copper, 200.8, Water							2					1	**3**
WW - Waste Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water	3	2	9	4	10	2	11	2	3	10	2	4	**62**
WW - Waste Water	NH3-4500-W	Ammonia, SM4500D, Water	5	2	9	4	10	2	11	5	3	10	2	3	**66**
WW - Waste Water	NH3N-4500W	Ammonia-N,4500, Water	6	2	9	4	11	2	11	5	3	10	3	3	**69**
WW - Waste Water	NI-200.8-D	Nickel, 200.8, Dissolved	1												**1**
WW - Waste Water	NI-200.8-W	Nickel, 200.8, Water							2					1	**3**
WW - Waste Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	6	2	9	4	11	2	11	6	4	10	3	3	**71**
WW - Waste Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	6	2	9	4	11	2	11	6	4	10	3	3	**71**
WW - Waste Water	PB-200.8-W	Lead, 200.8, Water							2					1	**3**
WW - Waste Water	RA228-W	Radium 228 EPA RA-05, Water												1	**1**
WW - Waste Water	SB-200.8-D	Antimony, 200.8, Dissolved	1												**1**
WW - Waste Water	SB-200.8-W	Antimony, 200.8, Water							2					1	**3**
WW - Waste Water	SE-200.8-D	Selenium, 200.8, Dissolved	1												**1**
WW - Waste Water	SE-200.8-W	Selenium, 200.8, Water							2					1	**3**
WW - Waste Water	TEMP	Temperature									1				**1**
WW - Waste Water	TL-200.8-D	Thallium, 200.8, Dissolved	1												**1**
WW - Waste Water	TL-200.8-W	Thallium, 200.8, Water							2					1	**3**
WW - Waste Water	TOTAL-N	Total Nitrogen									1				**1**
WW - Waste Water	ZN-200.8-W	Zinc, 200.8, Water							2	1	1			1	**5**
			5,121	**2,693**	**5,330**	**3,288**	**3,854**	**4,218**	**2,992**	**3,317**	**3,796**	**3,086**	**2,360**	**4,643**	**44,698**
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Number of Matrices Performed by Type of Sample by Client (8 pages)

All Customers	Analysis Code	Analysis Description	Type	Analyses Nov11 to Oct12 Year	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS
DW - Drinking Water	100.2ASB-D	Asbestos,E100.2,Drinking Water	I	8	8														
DW - Drinking Water	1613B-D	Dioxin TCDD EPA 1613 B, DWater	O	22	22														
DW - Drinking Water	2007SIL-W	Silica EPA 200.7,Water	I	3	3														
DW - Drinking Water	2120COL-W	Color SM2120 B ,Water	I	1,351	1,345										3	3			
DW - Drinking Water	2120ODR-W	ODOR SM 2150 B,Water	I	1,332	1,326										3	3			
DW - Drinking Water	2130TUR-W	SM 2130B Turbidity, Water	I	1,478	1,404									66	5	3			
DW - Drinking Water	218CHR6-W	Chromium VI,Water	I	7	3										1	3			
DW - Drinking Water	218DCHR6-W	Chromium VI, Dissolved, Water	I	5							4				1				
DW - Drinking Water	2340HARD-W	Hardness SM2340 C,Water	I	6	6														
DW - Drinking Water	245.1HG-W	Mercury,E245.1,Water	I	23	16										4	3			
DW - Drinking Water	2540-TDS-W	TDS SM2540C, Water	I	129	120								1		5	3			
DW - Drinking Water	300BRO3-W	Bromate EPA 300.1,Water	I	66	65						1								
DW - Drinking Water	300CLO2-W	Chlorite EPA 300.1,Water	I	65	65														
DW - Drinking Water	300CL-W	Chloride Anion EPA 300.1,Water	I	22	18								1		3				
DW - Drinking Water	300FL-W	Fluoride Anion EPA 300.1,Water	I	20	17										3				
DW - Drinking Water	300NO2-W	Nitrite Anion EPA 300.1,Water	I	38	34										4				
DW - Drinking Water	300NO3-W	Nitrate Anion EPA 300.1,Water	I	272	263								1	3	5				
DW - Drinking Water	300PO4P-W	Phosphate Anion EPA300.1,Water	I	4	1										3				
DW - Drinking Water	300S04-W	Sulfate Anion EPA 300.1,Water	I	22	18								1		3				
DW - Drinking Water	314CL4-W	Perchlorate EPA 314.0,Water	I	24	21						1				2				
DW - Drinking Water	3500CAMG	Hardness,Ca, Mg,Water	I	12	12														
DW - Drinking Water	3500CA-W	Calcium SM 3500 CA B ,Water	I	7	7														
DW - Drinking Water	3500K-D	Potassium SM3500 K D, D	I	2	2														
DW - Drinking Water	3500K-W	Potassium SM3500 K D ,W	I	8	8														
DW - Drinking Water	3500MG-W	Magnesium SM 3500 MG B ,Water	I	6	6														
DW - Drinking Water	3500NA-D	Sodium SM 3500 NA D, D	I	2	2														
DW - Drinking Water	3500NA-W	Sodium SM 3500 NA D ,W	I	16	16														
DW - Drinking Water	4500BOR-W	BORON, Water	I	8	5								1		2				
DW - Drinking Water	4500CHL-W	Chlorine SM4500-CLTotal Water	I	5										3	2				
DW - Drinking Water	4500FCHL-W	FieldChlorine SM4500-CL,Total	I	4,195	4,028								1	153	13			2	
DW - Drinking Water	4500-OG-W	SM 4500-O.G, DO Water	O	67	67														
DW - Drinking Water	4500-PH-W	SM4500 PH, Water	I	1,180	1,159						11			7	3				
DW - Drinking Water	504.1-D	EPA Method 504.1 , DW	O	26	24										2				
DW - Drinking Water	505-OHPA-D	EPA Method 505 , DW	O	33	22						6				2	3			
DW - Drinking Water	507-NPHP-D	EPA 507 Herbicide Pesticide	O	69	67										2				
DW - Drinking Water	507-NPP-D	EPA 507 N/P Pesticides	O	27	25										2				
DW - Drinking Water	515.3CHA-D	515.3 Chlorinated Acids-DW	O	24	22										2				
DW - Drinking Water	524.2FUL-D	EPA 524.2 Volatiles GCMS	O	107	94						6				4	3			
DW - Drinking Water	524.2GAD-D	GAD EPA 524.2, Drinking Water	O	5	3										2				
DW - Drinking Water	524.2SIM-D	EPA 524.2SIM 1,2,3-TCP , DW	O	19	19														
DW - Drinking Water	524.2THM-D	EPA 524.2 THM List, Drinking W	O	465	450						7			7					
DW - Drinking Water	524MTBE-D	EPA Method 524 MTBE GCMS, DW	O	5	5														
DW - Drinking Water	525.2FL-D	EPA 525.2 SOC Full List, DW	O	1	1														
DW - Drinking Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	O	69	69														
DW - Drinking Water	531.1CBM-D	Carbamates EPA 531.1, DW	O	24	22										2				
DW - Drinking Water	5310TOC-W	TOC SM 5310 B,Water	O	67	65										2				
DW - Drinking Water	547GLY-D	Glyphosate EPA 547, DW	O	10	8										2				
DW - Drinking Water	547GLY-W	Glyphosate EPA 547, Water	O	5	5														
DW - Drinking Water	548-D	Endothall EPA 548, DWater	O	22	22														
DW - Drinking Water	549.2-D	Diquat & Paraquat EPA549.2, DW	O	22	22														
																			Page 1

CGR MANAGEMENT CONSULTANTS

All Customers	Analysis Code	Analysis Description	Type	Analyses Nov11 to Oct12 Year	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS
DW - Drinking Water	552.2FUL-D	HAA Full List, 552.2, DW	O	276	260						7			7	2				
DW - Drinking Water	5540MBAS-W	MBAS, Water	I	20	16										4				
DW - Drinking Water	625-W	EPA Method 625, Water	O	24	24														
DW - Drinking Water	8015MDSL-D	Diesel EPA 8015M,DrinkingWater	O	3	3														
DW - Drinking Water	8015MGSL-D	Gasoline EPA 8015M, DW	O	3	3														
DW - Drinking Water	900ALPHA-W	Gross Alpha EPA 900.0, Water	I	45	45														
DW - Drinking Water	900BETA-W	Gross Beta EPA 900.0, Water	I	1	1														
DW - Drinking Water	903RAD226W	Total Alpha Rad EPA 903.0Water	I	43	43														
DW - Drinking Water	908URA-W	Uranium EPA 908 , Water	I	47	47														
DW - Drinking Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D	MB	2							1		1						
DW - Drinking Water	9221TCLI-D	SM9221B, Total Coliform MTF, D	MB	2							1		1						
DW - Drinking Water	9230-ENT-D	Enterococcus, SM 9230B, DW	MB	1									1						
DW - Drinking Water	AG-200.8-D	Silver, 200.8, Dissolved	I	22	16										3	3			
DW - Drinking Water	AL-200.8-D	Aluminum, 200.8, Dissolved	I	24	16										5	3			
DW - Drinking Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW	I	20	20														
DW - Drinking Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW	I	20	20														
DW - Drinking Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW	I	20	20														
DW - Drinking Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW	I	21	21														
DW - Drinking Water	AS-200.8-D	Arsenic, 200.8, Dissolved	I	679	667				3		1				5	3			
DW - Drinking Water	ASTM-D5504	D5504 Reduced Sulfur Analysis	I	2	2														
DW - Drinking Water	BA-200.8-D	Barium, 200.8, Dissolved	I	23	15										5	3			
DW - Drinking Water	BE-200.8-D	Beryllium, 200.8, Dissolved	I	18	15										3				
DW - Drinking Water	CD-200.8-D	Cadmium, 200.8, Dissolved	I	23	15										5	3			
DW - Drinking Water	CN4500E-W	Cyanide, SM4500-CN E, Water	I	80	78										2				
DW - Drinking Water	CO-200.8-D	Cobalt, 200.8, Dissolved	I	2											2				
DW - Drinking Water	COND-2510	Conductivity, SM2510B, Water	I	86	83										3				
DW - Drinking Water	CR-200.8-D	Chromium, 200.8, Dissolved	I	23	15										5	3			
DW - Drinking Water	CU-200.8-D	Copper, 200.8, Dissolved	I	135	61						11			45	15	3			
DW - Drinking Water	ECLI18QT-D	SM9223 E. coli Colilert18QT, D	MB	89							11			68	10				
DW - Drinking Water	ECLI24QT-D	SM9223 E. coli Colilert24QT, D	MB	7										5	2				
DW - Drinking Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A	MB	4,535	4,439				2		18			75	1				
DW - Drinking Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A	MB	211	196									10	1	3			1
DW - Drinking Water	FE-200.8-D	Iron, 200.8, Dissolved	I	57	51										3	3			
DW - Drinking Water	HPC-SIM-D	HPC, Idexx Simplate, DW	MB	293	271						3			3	12	3			1
DW - Drinking Water	LANGELIER	Langelier Index Calculation	I	6	6														
DW - Drinking Water	LEAD-DW	Lead in Drinking Water,SM3113B	I	218						218									
DW - Drinking Water	MN-200.8-D	Manganese, 200.8, Dissolved	I	29	23										3	3			
DW - Drinking Water	MO-200.8-D	Molybdenum, 200.8, Dissolved	I	2											2				
DW - Drinking Water	NH3-4500-D	Ammonia,SM4500D,Drinking Water	I	11	11														
DW - Drinking Water	NH3N-4500D	Ammonia-N,4500,Drinking Water	I	4	4														
DW - Drinking Water	NI-200.8-D	Nickel, 200.8, Dissolved	I	20	15										5				
DW - Drinking Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	I	14	14														
DW - Drinking Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	I	56	55								1						
DW - Drinking Water	PB-200.8-D	Lead, 200.8, Dissolved	I	123	49						11			45	15	3			
DW - Drinking Water	RA228-W	Radium 228 EPA RA-05, Water	I	43	43														
DW - Drinking Water	RSK-175-D	Diss Methane,Ethane,Ethylene	O	8	8														
DW - Drinking Water	SB-200.8-D	Antimony, 200.8, Dissolved	I	20	15										5				
DW - Drinking Water	SE-200.8-D	Selenium, 200.8, Dissolved	I	23	15										5	3			
DW - Drinking Water	TCLI18QT-D	SM9223 Total Coliform Clt18QTd	MB	70							11			49	10				
DW - Drinking Water	TCLI24QT-D	SM9223 Total Coliform Clt24QTd	MB	6										4	2				
																			Page 2

CGR MANAGEMENT CONSULTANTS

All Customers	Analysis Code	Analysis Description	Type	Analyses Nov11 to Oct12 Year	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS
DW - Drinking Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A	MB	4,535	4,439				2		18			75	1				
DW - Drinking Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A	MB	211	196									10	1	3			1
DW - Drinking Water	TEMP	Temperature	I	251	228									23					
DW - Drinking Water	TL-200.8-D	Thallium, 200.8, Dissolved	I	20	15										5				
DW - Drinking Water	V-200.8-D	Vanadium, 200.8, Dissolved	I	3	1										2				
DW - Drinking Water	ZN-200.8-D	Zinc, 200.8, Dissolved	I	22	16										3	3			
FD - Food	LEAD-F<25	Lead in Food < 25 grams, E7421	I	75						75									
FD - Food	LEAD-S	Lead in Solid, E7420	I	7						7									
FD - Food	MRS-CB	MRS N-Methylcarbamate Pest.	MB	5												5			
FD - Food	MRS-CH	MRS Organohalogen Pesticide	MB	5												5			
FD - Food	MRS-OP	MRS Organophosphate Pesticide	MB	5												5			
FD - Food	MRS-PY	MRS Pyrethroids Pesticide	MB	5												5			
FD - Food	SO3-AOAC-F	Sulfite,AOAC 961.09,Food	I	1								1							
MI - Miscellaneous	LEAD-F<25	Lead in Food < 25 grams, E7421	I	7						7									
MI - Miscellaneous	LEAD-S	Lead in Solid, E7420	I	16						16									
MI - Miscellaneous	LEAD-WRAP	Lead in Wrapper, AOAC	I	18						18									
O - Others	245Hg-S	Mercury, SW	I	5														5	
O - Others	691PY-Soil	Pyrethroids Scan, Soil	O	1												1			
O - Others	LEAD-S	Lead in Solid, E7420	I	8						8									
P - Paint	LEAD-PC	Lead in Paint Chips,E7420	I	3						3									
PC - Paint Chip	LEAD-PC	Lead in Paint Chips,E7420	I	15						15									
PL - Plant	MRS-CB	MRS N-Methylcarbamate Pest.	MB	4												4			
SO - Soil	245Hg-S	Mercury, SW	I	8			4	4											
SO - Soil	300NO3-S	Nitrate EPA 300.0, Soil	I	4				4											
SO - Soil	3050Ag-S	Silver, EPA 7761, Solid	I	4			4												
SO - Soil	3050AL-S	Aluminum, EPA 3113 B, Solid	I	4			4												
SO - Soil	3050As-S	Arsenic, EPA 7060A, Solid	I	8			4	4											
SO - Soil	3050Ba-S	Barium, EPA 7081, Solid	I	4			4												
SO - Soil	3050Be-S	Beryllium, EPA 7091, Solid	I	4			4												
SO - Soil	3050Cd-S	Cadmium, EPA 7130, Solid	I	8			4	4											
SO - Soil	3050Cu-S	Copper, EPA 7210, Solid	I	8			4	4											
SO - Soil	3050Fe-S	Iron EPA 7380, Solid	I	4			4												
SO - Soil	3050Mn-S	Manganese , EPA 7460, Solid	I	4			4												
SO - Soil	3050Mo-S	Molybdenum EPA 7481, Solid	I	8			4	4											
SO - Soil	3050Ni-S	Nickel, EPA 7520, Solid	I	8			4	4											
SO - Soil	3050Pb-S	Lead EPA 7420, Solid	I	8			4	4											
SO - Soil	3050Sb-S	Antimony, EPA 7041, Solid	I	4			4												
SO - Soil	3050Se-S	Selenium EPA 7740, Solid	I	8			4	4											
SO - Soil	3050Tl-S	Thallium, EPA 7841, Solid	I	4			4												
SO - Soil	3050V-S	Vanadium, EPA 7911, Solid	I	4			4												
SO - Soil	3050Zn-S	Zinc, EPA 7950, Solid	I	8			4	4											
SO - Soil	4500KNO-S	Organic Nitrogen SM4500, Soil	I	4				4											
SO - Soil	691PY-Soil	Pyrethroids Scan, Soil	O	1												1			
SO - Soil	KN-4500-S	Kjeldahl-N, SM4500org C, Soil	I	2				2											
SO - Soil	LEAD-S	Lead in Solid, E7420	I	244						244									
																			Page 3

All Customers	Analysis Code	Analysis Description	Type	Analyses Nov11 to Oct12 Year	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS
SO - Soil	NH3-4500-S	Ammonia,4500, Soil	I	4				4											
SO - Soil	NH3N-4500S	Ammonia-N, SM4500, Soil	I	4				4											
SO - Soil	NO3-N-S	Nitrate-N Anion EPA 300.1,Soil	I	4				4											
WA - Water	1623-W	Giardia EPA 1623, Water	O	1										1					
WA - Water	1625-NDMA	NDMA, EPA 1625CM, Water	O	7			7												
WA - Water	1664-W	Oil & Grease EPA 1664 A, Water	O	224		187	16					3	16		2				
WA - Water	2130TUR-W	SM 2130B Turbidity, Water	I	229		147	59				3	7	10	1				2	
WA - Water	218CHR6-W	Chromium VI,Water	I	74		70	4												
WA - Water	218DCHR6-W	Chromium VI, Dissolved, Water	I	70		70													
WA - Water	2340HARD-W	Hardness SM2340 C,Water	I	103		96	4				3								
WA - Water	245.1DHG-W	Mercury,E245.1,Dissolved Water	I	77		73	4												
WA - Water	245.1HG-W	Mercury,E245.1,Water	I	77		73	4												
WA - Water	2540SS-W	Setteable Solids SM2540F,Water	I	10									10						
WA - Water	2540-TDS-W	TDS SM2540C, Water	I	414		147	179	55			3		30						
WA - Water	2540TSS-W	TSS SM2540D, Water	I	335		197	101					7	22		8				
WA - Water	2540VSS-W	VSS SM2540 E ,Water	I	70		70													
WA - Water	300CL-W	Chloride Anion EPA 300.1,Water	I	1,341		150	1,094	55					42						
WA - Water	300FL-W	Fluoride Anion EPA 300.1,Water	I	158		150	4						4						
WA - Water	300NO2-W	Nitrite Anion EPA 300.1,Water	I	438		163	184	55			3	3	27				3		
WA - Water	300NO3-W	Nitrate Anion EPA 300.1,Water	I	444		163	184	55			3	3	30	3			3		
WA - Water	300PO4P-W	Phosphate Anion EPA300.1,Water	I	65				55					10						
WA - Water	300S04-W	Sulfate Anion EPA 300.1,Water	I	414		150	179	55					30						
WA - Water	314CL4-W	Perchlorate EPA 314.0,Water	I	7			7												
WA - Water	3500CAMG	Hardness,Ca, Mg,Water	I	71		67							4						
WA - Water	3500CA-W	Calcium SM 3500 CA B ,Water	I	28		24	4												
WA - Water	3500K-W	Potassium SM3500 K D ,W	I	85		77	4						4						
WA - Water	3500MG-W	Magnesium SM 3500 MG B ,Water	I	14		10	4												
WA - Water	3500NA-W	Sodium SM 3500 NA D ,W	I	85		77	4						4						
WA - Water	418.1TPH-W	TPH, EPA 418.1, Water	I	178		171	4				3								
WA - Water	420PHEN-W	Phenolics EPA 420.1,Water	I	97		94							3						
WA - Water	4500BOR-W	BORON, Water	I	338		77	179	55					27						
WA - Water	4500CHL-W	Chlorine SM4500-CLTotal Water	I	124			65	55			3		1						
WA - Water	4500DPHO-W	Diss.Phosphate SM4500-P E, W	I	73		73													
WA - Water	4500FCHL-W	FieldChlorine SM4500-CL,Total	I	74			4		33				34	1					
WA - Water	4500KNO-W	Organic Nitrogen SM4500, Water	I	251			180	55					13				3		
WA - Water	4500-OG-W	SM 4500-O.G, DO Water	O	97		94					3								
WA - Water	4500PHO-W	Total Phosphate SM4500-P E, W	I	177		166	4						4				3		
WA - Water	4500-PH-W	SM4500 PH, Water	I	458		163	179	55			3	7	39	1	6		3	2	
WA - Water	4500SULF-W	Sulfide SM 4500-S E,Water	I	3									3						
WA - Water	505-OHPA-D	EPA Method 505 , DW	O	4			4												
WA - Water	507-NPHP-D	EPA 507 Herbicide Pesticide	O	68	61		4										3		
WA - Water	507-NPP-W	EPA 507 N/P Pesticides, Water	O	77		70	4										3		
WA - Water	515.3CHA-W	515.3 Chlorinated Acids-W	O	76		73											3		
WA - Water	5210BOD-W	B-BOD SM5210 B ,Water	O	218		70	65	54				7	22						
WA - Water	5210CBOD-W	CBOD SM5210 B ,Water	O	9			9												
WA - Water	5220COD-W	COD, Water	I	77		73	4												
WA - Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	O	62	61														
WA - Water	531.1CBM-W	Carbamates EPA 531.1, Water	O	3													3		
																			Page 4

CGR MANAGEMENT CONSULTANTS

All Customers	Analysis Code	Analysis Description	Type	Analyses Nov11 to Oct12 Year	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS
WA - Water	5310TOC-W	TOC SM 5310 B,Water	O	85		73	4								8				
WA - Water	547GLY-W	Glyphosate EPA 547, Water	O	82	2	73	4										3		
WA - Water	5540MBAS-W	MBAS, Water	I	135		70	4	54					7						
WA - Water	608-W	EPA Method 608, Water	O	73		70											3		
WA - Water	624MTBE-W	EPA Method 624 MTBE GCMS, W	O	7			7												
WA - Water	624-OG-W	EPA Method 624, OG List, Water	O	94		94													
WA - Water	624-W	EPA Method 624,Full List,Water	O	28		22					3	3							
WA - Water	624-WMCUST	EPA 624 Watershed Custom List	O	55		55													
WA - Water	624-WR-W	EPA Meth 624,WaterRsrc, Water	O	11			11												
WA - Water	625-W	EPA Method 625, Water	O	84		73	11												
WA - Water	9221FCLI-D	SM9221E, Fecal Colifrom MTF, D	MB	34									32					2	
WA - Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W	MB	448		211	179	55			3								
WA - Water	9221TCLI-D	SM9221B, Total Coliform MTF, D	MB	34									32					2	
WA - Water	9221TCLI-W	SM9221B Total Coliform MTF, W	MB	448		211	179	55			3								
WA - Water	9230-ENT-D	Enterococcus, SM 9230B, DW	MB	28									28						
WA - Water	9230-ENT-W	Enterococcus, SM 9230B, Water	MB	390		211	179												
WA - Water	9230-STR-W	Streptococcus, SM 9230B, W	MB	98		94	4												
WA - Water	AG-200.8-D	Silver, 200.8, Dissolved	I	77		73	4												
WA - Water	AG-200.8-W	Silver, 200.8, Water	I	77		73	4												
WA - Water	AL-200.8-D	Aluminum, 200.8, Dissolved	I	174		166	4						4						
WA - Water	AL-200.8-W	Aluminum, 200.8, Water	I	152		148	4												
WA - Water	ALKB2320-W	Alkalinity (HCO3),SM 2320B,WW	I	108		93	4					7	4						
WA - Water	ALKC2320-W	Alkalinity (CO3),SM 2320B,WW	I	79		64	4					7	4						
WA - Water	ALKO2320-W	Alkalinity (OH),SM 2320B,WW	I	108		93	4					7	4						
WA - Water	ALKT2320-W	Alkalinity (Total),SM 2320B,WW	I	181		163	4				3	7	4						
WA - Water	AS-200.8-D	Arsenic, 200.8, Dissolved	I	80		73	4		3										
WA - Water	AS-200.8-W	Arsenic, 200.8, Water	I	77		73	4												
WA - Water	BA-200.8-D	Barium, 200.8, Dissolved	I	77		73	4												
WA - Water	BA-200.8-W	Barium, 200.8, Water	I	77		73	4												
WA - Water	BE-200.8-D	Beryllium, 200.8, Dissolved	I	77		73	4												
WA - Water	BE-200.8-W	Beryllium, 200.8, Water	I	77		73	4												
WA - Water	CD-200.8-D	Cadmium, 200.8, Dissolved	I	170		166	4												
WA - Water	CD-200.8-W	Cadmium, 200.8, Water	I	156		148	4					4							
WA - Water	CN4500E-W	Cyanide, SM4500-CN E, Water	I	162		158	4												
WA - Water	COND-2510	Conductivity, SM2510B, Water	I	165		150							4		8		3		
WA - Water	CR-200.8-D	Chromium, 200.8, Dissolved	I	77		73	4												
WA - Water	CR-200.8-W	Chromium, 200.8, Water	I	88		73	11					4							
WA - Water	CU-200.8-D	Copper, 200.8, Dissolved	I	174		166	4						4						
WA - Water	CU-200.8-W	Copper, 200.8, Water	I	166		148	11				3	4							
WA - Water	ECLI18QT-W	SM9223 E. coli Colilert18QT, W	MB	45		34	4					7							
WA - Water	ECLI24QT-W	SM9223 E. coli Colilert24QT, W	MB	5		5													
WA - Water	ENTRLTQT-W	Enterococcus, Quantitray, W	MB	7								7							
WA - Water	FCLT18PA-D	SM9223 Fecal Coliform Clt18P/A	MB	66					66										
WA - Water	FCLT24PA-D	SM9223 Fecal Coliform Clt24P/A	MB	11					11										
WA - Water	FE-200.8-D	Iron, 200.8, Dissolved	I	158		150	4						4						
WA - Water	FE-200.8-W	Iron, 200.8, Water	I	136		132	4												
WA - Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water	I	424		166	184	55				3	13				3		
WA - Water	MN-200.8-D	Manganese, 200.8, Dissolved	I	81		77							4						
																			Page 5

All Customers	Analysis Code	Analysis Description	Type	Analyses Nov11 to Oct12 Year	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS
WA - Water	MN-200.8-W	Manganese, 200.8, Water	I	59		59													
WA - Water	NH3-4500-W	Ammonia, SM4500D, Water	I	421		166	184	55					13				3		
WA - Water	NH3N-4500W	Ammonia-N,4500, Water	I	421		166	184	55					13				3		
WA - Water	NI-200.8-D	Nickel, 200.8, Dissolved	I	77		73	4												
WA - Water	NI-200.8-W	Nickel, 200.8, Water	I	77		73	4												
WA - Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	I	431		163	180	55			3		27				3		
WA - Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	I	434		163	180	55			3		30				3		
WA - Water	PB-200.8-D	Lead, 200.8, Dissolved	I	162		158	4												
WA - Water	PB-200.8-W	Lead, 200.8, Water	I	158		140	11				3	4							
WA - Water	SB-200.8-D	Antimony, 200.8, Dissolved	I	77		73	4												
WA - Water	SB-200.8-W	Antimony, 200.8, Water	I	77		73	4												
WA - Water	SE-200.8-D	Selenium, 200.8, Dissolved	I	154		150	4												
WA - Water	SE-200.8-W	Selenium, 200.8, Water	I	136		132	4												
WA - Water	TCLT18PA-D	SM9223 Total Coliform Clt18P/A	MB	66					66										
WA - Water	TCLT24PA-D	SM9223 Total Coliform Clt24P/A	MB	11					11										
WA - Water	TEMP	Temperature	I	24									23				1		
WA - Water	TL-200.8-D	Thallium, 200.8, Dissolved	I	77		73	4												
WA - Water	TL-200.8-W	Thallium, 200.8, Water	I	77		73	4												
WA - Water	TOTAL-N	Total Nitrogen	I	191		12	179												
WA - Water	TOXACUTE-W	Acute Toxicity, Water	B	10			9						1						
WA - Water	TOXSEAUR-W	Toxicity Sea Urchin, Water	I	23		23													
WA - Water	TOXWFLEA-W	Toxicity Water Flea, Water	I	23		23													
WA - Water	ZN-200.8-D	Zinc, 200.8, Dissolved	I	174		166	4						4						
WA - Water	ZN-200.8-W	Zinc, 200.8, Water	I	167		148	4					4	11						
WI - Wipe	3050Cu-S	Copper, EPA 7210, Solid	I	2												2			
WI - Wipe	691PY-Wipe	Pyrethroids Scan, Wipe	O	3												3			
WI - Wipe	LEAD-WIPE	Lead on Wipes, E7420	I	1,981						1,981									
WW - Waste Water	1613B-W	Dioxin TCDD EPA 1613 B, Water	O	4				3					1						
WW - Waste Water	1664-W	Oil & Grease EPA 1664 A, Water	O	78				73					5						
WW - Waste Water	2130TUR-W	SM 2130B Turbidity, Water	I	2									2						
WW - Waste Water	245.1HG-W	Mercury,E245.1,Water	I	4				3					1						
WW - Waste Water	2540SS-W	Setteable Solids SM2540F,Water	I	2									2						
WW - Waste Water	2540-TDS-W	TDS SM2540C, Water	I	63				57					6						
WW - Waste Water	2540TSS-W	TSS SM2540D, Water	I	186				184					2						
WW - Waste Water	300CL-W	Chloride Anion EPA 300.1,Water	I	59				57					2						
WW - Waste Water	300FL-W	Fluoride Anion EPA 300.1,Water	I	5				4					1						
WW - Waste Water	300NO2-W	Nitrite Anion EPA 300.1,Water	I	71				65					6						
WW - Waste Water	300NO3-W	Nitrate Anion EPA 300.1,Water	I	71				65					6						
WW - Waste Water	300PO4P-W	Phosphate Anion EPA300.1,Water	I	51				49					2						
WW - Waste Water	300S04-W	Sulfate Anion EPA 300.1,Water	I	63				57					6						
WW - Waste Water	420PHEN-W	Phenolics EPA 420.1,Water	I	1									1						
WW - Waste Water	4500BOR-W	BORON, Water	I	59				53					6						
WW - Waste Water	4500CHL-W	Chlorine SM4500-CLTotal Water	I	54				53					1						
WW - Waste Water	4500KNO-W	Organic Nitrogen SM4500, Water	I	61				57					4						
WW - Waste Water	4500PHO-W	Total Phosphate SM4500-P E, W	I	4				4											
WW - Waste Water	4500-PH-W	SM4500 PH, Water	I	84				82					2						
WW - Waste Water	4500SULF-W	Sulfide SM 4500-S E,Water	I	1									1						
WW - Waste Water	504.1-D	EPA Method 504.1 , DW	O	1									1						
																			Page 6

All Customers	Analysis Code	Analysis Description	Type	Analyses Nov11 to Oct12 Year	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS
WW - Waste Water	505-OHPA-D	EPA Method 505 , DW	O	1									1						
WW - Waste Water	507-NPP-W	EPA 507 N/P Pesticides, Water	O	1									1						
WW - Waste Water	515.3CHA-W	515.3 Chlorinated Acids-W	O	1									1						
WW - Waste Water	5210BOD-W	B-BOD SM5210 B ,Water	O	66				64					2						
WW - Waste Water	525.2SH-D	DEHP,DEHA,Benzopyrene,525.2,DW	O	1									1						
WW - Waste Water	531.1CBM-W	Carbamates EPA 531.1, Water	O	1									1						
WW - Waste Water	5310TOC-W	TOC SM 5310 B,Water	O	8				8											
WW - Waste Water	547GLY-D	Glyphosate EPA 547, DW	O	1									1						
WW - Waste Water	548-D	Endothall EPA 548, DWater	O	1									1						
WW - Waste Water	549.2-D	Diquat & Paraquat EPA549.2, DW	O	1									1						
WW - Waste Water	5540MBAS-W	MBAS, Water	I	52				49					3						
WW - Waste Water	608-WW	EPA Method 608, Waste Water	O	3				3											
WW - Waste Water	624AC-W	EPA 624 Acrln & Acryl, W	O	3				3											
WW - Waste Water	624-SM-W	EPA Meth 624,SewerMaint, Water	O	4				3					1						
WW - Waste Water	625-WW	EPA Method 625, Waste Water	O	3				3											
WW - Waste Water	900ALPHA-W	Gross Alpha EPA 900.0, Water	I	1				1											
WW - Waste Water	903RAD226W	Total Alpha Rad EPA 903.0Water	I	1				1											
WW - Waste Water	908URA-W	Uranium EPA 908 , Water	I	1				1											
WW - Waste Water	9221FCLI-W	SM9221E Fecal Coliform MTF, W	MB	127				127											
WW - Waste Water	9221TCLI-W	SM9221B Total Coliform MTF, W	MB	127				127											
WW - Waste Water	AG-200.8-W	Silver, 200.8, Water	I	3				3											
WW - Waste Water	AL-200.8-D	Aluminum, 200.8, Dissolved	I	1									1						
WW - Waste Water	AS-200.8-D	Arsenic, 200.8, Dissolved	I	1									1						
WW - Waste Water	AS-200.8-W	Arsenic, 200.8, Water	I	3				3											
WW - Waste Water	BA-200.8-D	Barium, 200.8, Dissolved	I	1									1						
WW - Waste Water	BE-200.8-D	Beryllium, 200.8, Dissolved	I	1									1						
WW - Waste Water	BE-200.8-W	Beryllium, 200.8, Water	I	3				3											
WW - Waste Water	CD-200.8-D	Cadmium, 200.8, Dissolved	I	1									1						
WW - Waste Water	CD-200.8-W	Cadmium, 200.8, Water	I	3				3											
WW - Waste Water	CN4500E-W	Cyanide, SM4500-CN E, Water	I	4				3					1						
WW - Waste Water	CR-200.8-D	Chromium, 200.8, Dissolved	I	1									1						
WW - Waste Water	CR-200.8-W	Chromium, 200.8, Water	I	3				3											
WW - Waste Water	CU-200.8-W	Copper, 200.8, Water	I	3				3											
WW - Waste Water	KN-4500-W	Kjeldahl-N, SM4500org C, Water	I	62				58					4						
WW - Waste Water	NH3-4500-W	Ammonia, SM4500D, Water	I	66				62					4						
WW - Waste Water	NH3N-4500W	Ammonia-N,4500, Water	I	69				65					4						
WW - Waste Water	NI-200.8-D	Nickel, 200.8, Dissolved	I	1									1						
WW - Waste Water	NI-200.8-W	Nickel, 200.8, Water	I	3				3											
WW - Waste Water	NO2-N-W	Nitrite-N Anion EPA 300.1,WA	I	71				65					6						
WW - Waste Water	NO3-N-W	Nitrate-N Anion EPA 300.1,WA	I	71				65					6						
WW - Waste Water	PB-200.8-W	Lead, 200.8, Water	I	3				3											
WW - Waste Water	RA228-W	Radium 228 EPA RA-05, Water	I	1				1											
WW - Waste Water	SB-200.8-D	Antimony, 200.8, Dissolved	I	1									1						
WW - Waste Water	SB-200.8-W	Antimony, 200.8, Water	I	3				3											
WW - Waste Water	SE-200.8-D	Selenium, 200.8, Dissolved	I	1									1						
WW - Waste Water	SE-200.8-W	Selenium, 200.8, Water	I	3				3											
WW - Waste Water	TEMP	Temperature	I	1									1						
WW - Waste Water	TL-200.8-D	Thallium, 200.8, Dissolved	I	1									1						
WW - Waste Water	TL-200.8-W	Thallium, 200.8, Water	I	3				3											
WW - Waste Water	TOTAL-N	Total Nitrogen	I	1				1											
WW - Waste Water	ZN-200.8-W	Zinc, 200.8, Water	I	5				3					2						
		Total Analyses		**44,698**	**22,752**	**9,606**	**4,670**	**2,713**	**197**	**2,592**	**180**	**106**	**779**	**665**	**266**	**100**	**52**	**15**	**3**
		Count of Different Analyses		**340**	**97**	**91**	**103**	**82**	**9**	**11**	**35**	**21**	**104**	**24**	**65**	**32**	**18**	**6**	**3**
																			Page 7

SUMMARY 1

Analysis Description	Type	Analyses Nov11 to Oct12 Year	PW-WW	PW-WM	PW-WR	PW-SM	PW-FM	PH-LD	PH-SW	PH	FD-CM	FD	MS	ACWM	MS-MCC	PR	SFS
DW - Drinking Water		23,957	22,628	0	0	0	7	218	129	0	10	658	234	69	0	2	3
FD - Food		103	0	0	0	0	0	82	0	1	0	0	0	20	0	0	0
MI - Miscellaneous		41	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0
O - Others		14	0	0	0	0	0	8	0	0	0	0	0	1	0	5	0
P - Paint		3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
PC - Paint Chip		15	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0
PL - Plant		4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
SO - Soil		375	0	0	72	58	0	244	0	0	0	0	0	1	0	0	0
WA - Water		16,478	124	9,606	4,598	1,043	190	0	51	105	659	7	32	0	52	8	0
WI - Wipe		1,986	0	0	0	0	0	1,981	0	0	0	0	0	5	0	0	0
WW - Waste Water		1,722	0	0	0	1,612	0	0	0	0	110	0	0	0	0	0	0
TOTALS		44,698	22,752	9,606	4,670	2,713	197	2,592	180	106	779	665	266	100	52	15	3
INORGANIC	240																
ORGANIC	66																
MICROBIOLOGY	33																
BIOLOGY	1																
TOTAL DIFFERENT TESTS	**340**																

SUMMARY 2

Count Diff Tests		Total Anal	%	Clients	=1	<12	<52	>260
106	DW - Drinking Water	23,957	53.6%	10	3	34	74	12
117	WA - Water	16,478	36.9%	12	1	15	25	16
72	WW - Waste Water	1,722	3.9%	2	27	51	52	0
3	WI - Wipe	1,986	4.4%	3	0	2	2	1
26	SO - Soil	375	0.84%	4	0	6	6	0
7	FD - Food	103	0.23%	3	1	6	6	0
3	MI - Miscellaneous	41	0.09%	1	0	1	3	0
1	PC - Paint Chip	15	0.03%	1	0	1	3	0
3	O - Others	14	0.03%	3	1	3	3	0
1	PL - Plant	4	0.01%	1	0	1	1	0
1	P - Paint	3	0.01%	1	0	1	1	0
340	**Totals**	**44,698**	100%		**33**	**121**	**176**	**29**

Note:
1 = Once per year
<12 = Average less than once per month
<52 = Average less than once per week
>260 = Average more than once per day

Clients	
PW-WW	Waterworks
PW-WM	Watershed Management
PW--WR	Water Resources
PW-SM	Sewer Maintenance
PW-FM	Flood Maintenance
PH-LD	Public Health - Lead
PH-SW	Public Health - Small Water
PH	Public Health
FD-CM	Fire Department - Construction
FD	Fire Department
MS	Miscellaneous / Private Citizen
ACWM	Agricultural Commission, Weights & measures
MS-MCC	Malibu Country Club
PR	Parks & Recreation
SFS	Santa Fe Springs

APPENDIX IV – ANALYSIS OF REVENUES AND EXPENDITURES

This appendix contains analyses of the raw data shown in Appendix II, using the most appropriate volume figures, to calculate the:

- Actual Revenue, Expenditure and Net County Cost by Year
- Calculated and Actual Revenues
- Estimate of Outsourcing Cost

Actual Revenue, Expenditure and Net County Cost by Year

	2011-12	2010-11	2009-10	2008-09
EXPENDITURE				
Salaries & Benefits	$1,591,216	$1,694,000	$1,650,000	$1,399,000
Service and Supplies	$607,466	$508,000	$680,000	$755,000
Capital Assets	$124,135	$0	$0	$146,000
Total Expenditure	**$2,322,817**	**$2,202,000**	**$2,330,000**	**$2,300,000**
REVENUE	**2011-12**	**2010-11**	**2009-10**	**2008-09**
Intrafund Transfers				
Public Health	$35,538	$37,000	$42,000	$62,000
Coroner	$0	$0	$0	$0
Various	$351	$0	$0	$5,000
Revenue				
Public Works	$918,035	$838,000	$1,017,000	$879,000
Others	$7,089	$10,000	$10,000	$4,000
Fire Department	$49,190	$30,000	$30,000	$0
Total Revenues	**$1,010,203**	**$915,000**	**$1,099,000**	**$950,000**
Net County Cost	**$1,312,614**	**$1,287,000**	**$1,231,000**	**$1,350,000**

Calculated and Actual Revenues (2 pages)

TEST	METHOD	Matrix	2006-07	2007-08	2008-09	2010-11	Current Grp. III Rate	2006-07 Grp. III Revenue	2007-08 Grp. III Revenue	2008-09 Grp. III Revenue	2010-11 GRP. III Revenue
Alkalinity Total	SM 2320B	DW/WW	106	160	135	144	$ 19.53	$2,070.18	$3,124.80	$2,636.55	$2,812.32
Metal-Each(Dissolve)	Metal	DW	3497	3771	2853	5418	$ 18.25	$63,820.25	$68,820.75	$52,067.25	$98,878.50
Metal-Each(Total)	Metal	WW	4056	5356	3053	1893	$ 18.25	$74,022.00	$97,747.00	$55,717.25	$34,547.25
Ammonia (Calculation)	Calculation	DW/WW	190	200	210	201		$0.00	$0.00	$0.00	$0.00
Ammonia Nitrogen-D	SM 4500-NH3 D	DW	100	105	105	115	$ 7.54	$754.00	$791.70	$791.70	$867.10
Ammonia Nitrogen-W	SM 4500-NH3 D	WW	295	315	312	308	$ 7.54	$2,224.30	$2,375.10	$2,352.48	$2,322.32
BOD5/cBOD5 (SM 5210)	SM 5210	WW	363	359	216	242	$ 32.53	$11,808.39	$11,678.27	$7,026.48	$7,872.26
Boron	SM 4500-B B	DW/WW	269	481	235	148	$ 14.23	$3,827.87	$6,844.63	$3,344.05	$2,106.04
Bromide	EPA 300.0	DW/WW	72	104	101	51	$ 14.23	$1,024.56	$1,479.92	$1,437.23	$725.73
Calcium	SM 3500 Ca B	DW/WW	84	64	95	37	$ 13.53	$1,136.52	$865.92	$1,285.35	$500.61
Carbamate Pesticides (EPA 531.1)	EPA 531.1	DW/WW	45	103	76	7	$ 92.29	$4,153.05	$9,505.87	$7,014.04	$646.03
Chemical Oxygen Demand-COD	SM 5220D	DW/WW	151	162	111	94	$ 37.30	$5,632.30	$6,042.60	$4,140.30	$3,506.20
Anion-Each (F, Cl, NO2, NO3, PO4, SO4)	EPA 300.0	DW/WW	2107	2383	1908	1908	$ 14.23	$29,982.61	$33,910.09	$27,150.84	$27,150.84
Chlorinated Pesticides (EPA 505)	EPA 505	DW/WW	2	42	7	8	$ 65.48	$130.96	$2,750.16	$458.36	$523.84
Chlorinated Pesticides (EPA 608)	EPA 608	WW	120	113	131	106	$ 122.84	$14,740.80	$13,880.92	$16,092.04	$13,021.04
Chlorine, Residual	SM 4500Cl	DW/WW	5672	5190	4999	4497	$ 13.53	$76,742.16	$70,220.70	$67,636.47	$60,844.41
Chlorine, Total	SM 4500Cl	DW/WW	300	280	270	178	$ 14.09	$4,227.00	$3,945.20	$3,804.30	$2,508.02
Chromium VI	EPA 218.6	DW/WW	69	224	115	1189	$ 71.24	$4,915.56	$15,957.76	$8,192.60	$84,704.36
Chromium VI (Dissolve)	EPA 218.6	DW/WW	69	224	115	104	$ 71.24	$4,915.56	$15,957.76	$8,192.60	$7,408.96
Colilert (Bacteria Presence/Absence)	SM 9223	DW	6419	5598	4690	4927		$0.00	$0.00	$0.00	$0.00
Color	SM 2120B	DW/WW	1933	1312	1272	1202	$ 7.54	$14,574.82	$9,892.48	$9,590.88	$9,063.08
Conductivity	SM 2130B	DW/WW	226	436	227	225	$ 7.54	$1,704.04	$3,287.44	$1,711.58	$1,696.50
Copy Reports											
Cyanide	SM 4500-CN C, E	DW/WW	217	255	248	169	$ 51.57	$11,190.69	$13,150.35	$12,789.36	$8,715.33
Dissolved Oxygen (SM 4500-OG)	SM 4500-OG	DW/WW	43	110	141	200	$ 16.27	$699.61	$1,789.70	$2,294.07	$3,254.00
E. coli (Colilert Quanti-Tray)	SM 9223	DW/WW	39	0	3	31		$0.00	$0.00	$0.00	$0.00
Enterococcus (SM 9230)	SM 9230	DW/WW	321	632	378	410	$ 25.59	$8,214.39	$16,172.88	$9,673.02	$10,491.90
Fecal Coliform (SM 9221)	SM 9221	DW/WW	524	1119	573	819	$ 25.59	$13,409.16	$28,635.21	$14,663.07	$20,958.21
Glyphosate (EPA 547)	EPA 547	DW/WW	123	103	115	101	$ 91.60	$11,266.80	$9,434.80	$10,534.00	$9,251.60
Haloacetic Acid (EPA 552.2)	EPA 552.2	DW	325	467	472	311	$ 155.00	$50,375.00	$72,385.00	$73,160.00	$48,205.00
Hardness	SM 2340C	DW/WW	110	160	135	185	$ 14.23	$1,565.30	$2,276.80	$1,921.05	$2,632.55
Herbicides (EPA 515.3)	EPA 515.3	DW/WW	107	115	116	102	$ 84.07	$8,995.49	$9,668.05	$9,752.12	$8,575.14
Heterotrophic Plate Counts (HPC)	IDEXX SimPlate	DW/WW	492	801	434	400	$ 6.55	$3,222.60	$5,246.55	$2,842.70	$2,620.00
HPC (Pour Plates)	SM 9215B	DW/WW	0	0	0	0		$0.00	$0.00	$0.00	$0.00
Corrosivity/Langelier Index (Calculation)	Calculation		40	35	25	17	$ 58.87	$2,354.80	$2,060.45	$1,471.75	$1,000.79
Lead AA Flame (Leachable)		Solid	120	60	36	17	$ 14.00	$1,680.00	$840.00	$504.00	$238.00
Lead AA Flame (Paint)		Paint	360	240	120	17	$ 10.00	$3,600.00	$2,400.00	$1,200.00	$170.00
Lead AA Flame (Soil)		Soil	418	287	170	247	$ 10.00	$4,180.00	$2,870.00	$1,700.00	$2,470.00
Lead AA Flame (Solid)		Solid	0	0	0	0	$ 14.00	$0.00	$0.00	$0.00	$0.00
Lead AA Flame (Wipe)		Wipe	2678	1532	1482	1868	$ 10.00	$26,780.00	$15,320.00	$14,820.00	$18,680.00
Lead AA Flame (Wrapper)		Solid	60	30	25	20	$ 14.00	$840.00	$420.00	$350.00	$280.00
Lead GFAA (Food)		Food	180	120	60	49	$ 14.00	$2,520.00	$1,680.00	$840.00	$686.00
Lead GFAA (Other)		Solid	15	15	10	10	$ 14.00	$210.00	$210.00	$140.00	$140.00
											Page 1

TEST	METHOD	Matrix	2006-07	2007-08	2008-09	2010-11	Current Grp. III Rate	2006-07 Grp. III Revenue	2007-08 Grp. III Revenue	2008-09 Grp. III Revenue	2010-11 GRP. III Revenue
Log-in Sample/Receiving											
Magnesium	SM 3500 MG B	DW/WW	84	64	95	37	$ 14.23	$1,195.32	$910.72	$1,351.85	$526.51
MBAS (Surfactant)	SM 5540C	DW/WW	245	271	219	234	$ 22.33	$5,470.85	$6,051.43	$4,890.27	$5,225.22
Mercury	EPA 245.1	DW/WW	478	550	220	141	$ 37.30	$17,829.40	$20,515.00	$8,206.00	$5,259.30
Mercury (Dissolve)	EPA 245.1	DW/WW	98	160	104	94	$ 37.30	$3,655.40	$5,968.00	$3,879.20	$3,506.20
Mineral Balance (Calculation)	Calculation		35	20	15	20	$ -	$0.00	$0.00	$0.00	$0.00
N.P. Containing Pesticides (EPA 507)	EPA 507	DW/WW	160	122	117	141	$ 86.43	$13,828.80	$10,544.46	$10,112.31	$12,186.63
Nitrate-N (Calculation)	Calculation	DW/WW	650	556	601	126	$ -	$0.00	$0.00	$0.00	$0.00
Nitrite-N (Calculation)	Calculation	DW/WW	580	574	382	126	$ -	$0.00	$0.00	$0.00	$0.00
Odor	SM 2150B	DW/WW	1952	1312	1272	1202	$ 7.54	$14,718.08	$9,892.48	$9,590.88	$9,063.08
Oil and Grease (EPA 1664A)	EPA 1664A	WW	177	188	242	264	$ 41.02	$7,260.54	$7,711.76	$9,926.84	$10,829.28
Organic Nitrogen (Calculation)	Calculation		221	230	255	203	$ 23.03	$5,089.63	$5,296.90	$5,872.65	$4,675.09
Perchlorate	EPA 314.0	DW/WW	15	101	107	53	$ 65.99	$989.85	$6,664.99	$7,060.93	$3,497.47
Pesticides (Carbamate) MRS-CB	CDFA 691	Produce	0	0	2	30	$ 48.79	$0.00	$0.00	$97.58	$1,463.70
Pesticides (Chlorinated) CH-Wipe	CDFA 691	Wipe	0	3	0	11	$ 48.79	$0.00	$146.37	$0.00	$536.69
Pesticides (Chlorinated) MRS-CH	CDFA 691	Produce	0	0	0	12	$ 48.79	$0.00	$0.00	$0.00	$585.48
Pesticides (Organophosphate)MRS-OP	CDFA 691	Produce	5	5	14	12	$ 48.79	$243.95	$243.95	$683.06	$585.48
Pesticides (Pyrethroids) MRS-PY	CDFA 691	Produce	0	0	0	12	$ 48.79	$0.00	$0.00	$0.00	$585.48
Pesticides (Pyrethroids) PY-Wipe	CDFA 691	Wipe	29	13	19	0	$ 48.79	$1,414.91	$634.27	$927.01	$0.00
pH	SM 4500 HB	DW/WW	1388	1137	870	1506	$ 4.64	$6,440.32	$5,275.68	$4,036.80	$6,987.84
Phenolic	EPA 420.1	DW/WW	76	110	139	141	$ 29.03	$2,206.28	$3,193.30	$4,035.17	$4,093.23
Potassium	SM 3500 K-D	DW/WW	84	139	113	21	$ 13.00	$1,092.00	$1,807.00	$1,469.00	$273.00
Semi-Volatile Organic Compounds	EPA 625	WW	123	176	155	117	$ 229.90	$28,277.70	$40,462.40	$35,634.50	$26,898.30
Settle Solids (mg/L) (Inc. TSS)	SM 2540F	DW/WW	0	0	0	0		$0.00	$0.00	$0.00	$0.00
Settle Solids (mL/L)	SM 2540F	DW/WW	5	5	5	6	$ 8.24	$41.20	$41.20	$41.20	$49.44
Sodium	SM 3111B	DW/WW	84	139	113	30	$ 13.00	$1,092.00	$1,807.00	$1,469.00	$390.00
Streptococus (SM 9230)	SM 9230	DW/WW	165	490	283	220	$ 25.59	$4,222.35	$12,539.10	$7,241.97	$5,629.80
THM, GC/MS (EPA 524.2) + MTBE	EPA 524.2	DW/WW	741	895	801	792	$ 26.55	$19,673.55	$23,762.25	$21,266.55	$21,027.60
TOC/DOC (SM 5310)	SM 5310	DW/WW	226	288	221	198	$ 26.23	$5,927.98	$7,554.24	$5,796.83	$5,193.54
Total Coliform (SM 9221)	SM 9221	DW/WW	565	1126	574	608	$ 25.59	$14,458.35	$28,814.34	$14,688.66	$15,558.72
Total Dissolved Solids-TDS	SM 2540	DW/WW	506	701	498	572	$ 9.64	$4,877.84	$6,757.64	$4,800.72	$5,514.08
Total Kjeldahl Nitrogen	SM 4500	DW/WW	180	160	124	417	$ 23.03	$4,145.40	$3,684.80	$2,855.72	$9,603.51
Total Nitrogen (Calculation)	Calculation		180	160	124	417	$ -	$0.00	$0.00	$0.00	$0.00
Total Petroleum Hydrocarbon (TPH)	EPA 418.1	WW	51	110	143	141	$ 25.85	$1,318.35	$2,843.50	$3,696.55	$3,644.85
Total Phosphate	SM 4500 PE	DW/WW	174	195	142	143	$ 37.30	$6,490.20	$7,273.50	$5,296.60	$5,333.90
Total Phosphate (Dissolve)	SM 4500 PE	DW/WW	145	160	104	94	$ 37.30	$5,408.50	$5,968.00	$3,879.20	$3,506.20
Total Suspended Solids-TSS	SM 2540D	DW/WW	468	529	823	534	$ 9.64	$4,511.52	$5,099.56	$7,933.72	$5,147.76
TPH (State Draft Method 815)	State Draft M815	Soil	0	0	0	0	$ 94.95	$0.00	$0.00	$0.00	$0.00
Turbidity	SM 2130B	DW/WW	2196	1538	1382	1575	$ 7.54	$16,557.84	$11,596.52	$10,420.28	$11,875.50
Volatile Organic Compounds (VOC)	EPA 524.2/624	DW/WW	122	99	238	193	$ 125.30	$15,286.60	$12,404.70	$29,821.40	$24,182.90
Volatile Suspended Solids	SM 2540	WW	98	160	104	94	$ 16.89	$1,655.22	$2,702.40	$1,756.56	$1,587.66
Temperature	SM 2550	DW/WW	262	271	253	262					
Taste	SM 2160	DW	6	3	2	0	$ 8.24	$49.44	$24.72	$16.48	$0.00
Sulfide	SM4500SE	DW/WW	61	2	9	3	$ 11.83	$721.63	$23.66	$106.47	$35.49
Calculated Totals			**44952**	**45825**	**36663**	**38777**		**$689,661.77**	**$821,854.70**	**$668,159.45**	**$715,132.86**
Actual Revenue										**$950,000.00**	**$915,000.00**
Difference										**-29.7%**	**-21.8%**
											Page 2

CGR MANAGEMENT CONSULTANTS

Estimate of Outsourcing Cost (2 pages)

Test Price Group	Price Method	Actual ETL In-House Volume Nov11-Oct12	Gp. III Rate	Minimum Outsource Rate	Average Outsource Rate	Maximum Outsource Rate	Planned New Rate	ETL Gp. III Rate Revenue	Minimum Outsource Rate Fees	Average Outsource Rate Fees	Maximum Outsource Rate Fees	ETL Draft New Rate Revenue
Colilert (Bacteria Presence/Absence)	SM 9223	9868	$15.43	$15.43	$15.43	$15.43	$24.50	$152,263.24	$152,263.24	$152,263.24	$152,263.24	$241,766.00
Chlorine, Residual	SM 4500Cl	4452	$14.09	$18.00	$28.60	$45.00	$22.65	$62,728.68	$80,136.00	$127,327.20	$200,340.00	$100,837.80
Metal-Each(Dissolve)	Metal	3144	$18.25	$15.00	$20.17	$35.00	$25.79	$57,378.00	$47,160.00	$63,404.00	$110,040.00	$81,083.76
Metal-Each(Total)	Metal	2115	$32.77	$15.00	$24.67	$43.00	$27.04	$69,308.55	$31,725.00	$52,170.00	$90,945.00	$57,189.60
Anion-Each (F, Cl, NO2, NO3, PO4, SO4)	EPA 300.0	4072	$14.23	$15.00	$27.50	$45.00	$27.29	$57,944.56	$61,080.00	$111,980.00	$183,240.00	$111,124.88
Lead AA Flame (Wipe)		1981	$10.00	$8.00	$8.00	$8.00	$23.11	$19,810.00	$15,848.00	$15,848.00	$15,848.00	$45,780.91
Turbidity	SM 2130B	1709	$7.54	$13.00	$14.50	$15.00	$16.90	$12,885.86	$22,217.00	$24,780.50	$25,635.00	$28,882.10
Odor	SM 2150B	1332	$7.54	$17.00	$20.67	$25.00	$11.39	$10,043.28	$22,644.00	$27,528.00	$33,300.00	$15,171.48
Color	SM 2120B	1351	$7.54	$13.00	$16.00	$20.00	$11.39	$10,186.54	$17,563.00	$21,616.00	$27,020.00	$15,387.89
pH	SM 4500 HB	1722	$4.64	$10.00	$11.60	$15.00	$13.77	$7,990.08	$17,220.00	$19,975.20	$25,830.00	$23,711.94
THM, GC/MS (EPA 524.2) + MTBE	EPA 524.2	482	$26.55	$40.00	$80.00	$125.00	$49.97	$12,797.10	$19,280.00	$38,560.00	$60,250.00	$24,085.54
Fecal Coliform (SM 9221)	SM 9221	1222	$25.59	$27.00	$28.50	$30.00	$35.10	$31,270.98	$32,994.00	$34,827.00	$36,660.00	$42,892.20
Total Coliform (SM 9221)	SM 9221		$25.59	$19.00	$24.50	$30.00	$43.76	$0.00	$0.00	$0.00	$0.00	$0.00
Total Suspended Solids-TSS	SM 2540D	521	$9.64	$15.00	$17.75	$22.00	$22.96	$5,022.44	$7,815.00	$9,247.75	$11,462.00	$11,962.16
Total Dissolved Solids-TDS	SM 2540	606	$9.64	$15.00	$19.33	$32.00	$21.46	$5,841.84	$9,090.00	$11,716.00	$19,392.00	$13,004.76
Heterotrophic Plate Counts (HPC)	IDEXX SimPlate	293	$6.55	$22.00	$26.00	$30.00	$22.76	$1,919.15	$6,446.00	$7,618.00	$8,790.00	$6,668.68
Nitrate-N (Calculation)	Calculation	565	$0.00	$20.00	$20.00	$20.00	$2.98	$0.00	$11,300.00	$11,300.00	$11,300.00	$1,683.70
Enterococcus (SM 9230)	SM 9230	426	$25.59	$27.00	$27.00	$27.00	$35.10	$10,901.34	$11,502.00	$11,502.00	$11,502.00	$14,952.60
Nitrite-N (Calculation)	Calculation		$0.00	$20.00	$20.00	$20.00	$2.98	$0.00	$0.00	$0.00	$0.00	$0.00
Chromium VI	EPA 218.6		$71.24	$29.00	$67.67	$87.00	$78.40	$0.00	$0.00	$0.00	$0.00	$0.00
Haloacetic Acid (EPA 552.2)	EPA 552.2	276	$155.00	$100.00	$130.50	$161.00	$165.50	$42,780.00	$27,600.00	$36,018.00	$44,436.00	$45,678.00
Mercury	EPA 245.1		$37.30	$30.00	$45.00	$60.00	$59.04	$0.00	$0.00	$0.00	$0.00	$0.00
Ammonia Nitrogen-W	SM 4500-NH3 D		$7.54	$25.00	$44.50	$65.00	$42.62	$0.00	$0.00	$0.00	$0.00	$0.00
BOD5/cBOD5 (SM 5210)	SM 5210	293	$32.53	$30.00	$50.83	$75.00	$53.97	$9,531.29	$8,790.00	$14,894.17	$21,975.00	$15,813.21
Streptococus (SM 9230)	SM 9230	98	$25.59	$19.00	$19.00	$19.00	$35.26	$2,507.82	$1,862.00	$1,862.00	$1,862.00	$3,455.48
Boron	SM 4500-B B	405	$14.23	$15.00	$17.75	$20.00	$31.33	$5,763.15	$6,075.00	$7,188.75	$8,100.00	$12,688.65
Lead AA Flame (Soil)		244	$10.00	$12.00	$12.00	$12.00	$26.27	$2,440.00	$2,928.00	$2,928.00	$2,928.00	$6,409.88
Conductivity	SM 2130B	251	$7.54	$11.00	$15.00	$20.00	$16.90	$1,892.54	$2,761.00	$3,765.00	$5,020.00	$4,241.90
Temperature	SM 2550	276	$0.00	$5.00	$5.00	$5.00	$10.94	$0.00	$1,380.00	$1,380.00	$1,380.00	$3,019.44
Chlorine, Total	SM 4500Cl		$14.09	$18.00	$28.60	$45.00	$22.65	$0.00	$0.00	$0.00	$0.00	$0.00
MBAS (Surfactant)	SM 5540C	207	$22.33	$45.00	$57.50	$85.00	$49.60	$4,622.31	$9,315.00	$11,902.50	$17,595.00	$10,267.20
TOC/DOC (SM 5310)	SM 5310	160	$26.23	$35.00	$45.80	$65.00	$42.71	$4,196.80	$5,600.00	$7,328.00	$10,400.00	$6,833.60
Organic Nitrogen (Calculation)	Calculation	316	$0.00	$50.00	$50.00	$50.00	$8.30	$0.00	$15,800.00	$15,800.00	$15,800.00	$2,622.80
Cyanide	SM 4500-CN C, E	246	$51.57	$40.00	$51.00	$65.00	$59.98	$12,686.22	$9,840.00	$12,546.00	$15,990.00	$14,755.08
Total Kjeldahl Nitrogen	SM 4500	488	$23.03	$29.00	$49.75	$65.00	$62.67	$11,238.64	$14,152.00	$24,278.00	$31,720.00	$30,582.96
Total Nitrogen (Calculation)	Calculation	192	$0.00	$0.00	$0.00	$0.00	$6.10	$0.00	$0.00	$0.00	$0.00	$1,171.20
Oil and Grease (EPA 1664A)	EPA 1664A	302	$41.02	$35.00	$46.33	$60.00	$53.97	$12,388.04	$10,570.00	$13,992.67	$18,120.00	$16,298.94
Ammonia (Calculation)	Calculation		$0.00	$0.00		$0.00	$2.62	$0.00	$0.00	$0.00	$0.00	$0.00
Lead AA Flame (Paint)		18	$10.00	$8.00	$8.00	$8.00	$26.27	$180.00	$144.00	$144.00	$144.00	$472.86
Total Phosphate	SM 4500 PE	181	$37.30	$15.00	$40.17	$65.00	$37.84	$6,751.30	$2,715.00	$7,270.17	$11,765.00	$6,849.04
Volatile Organic Compounds (VOC)	EPA 524.2/624	299	$125.30	$100.00	$150.60	$220.00	$137.81	$37,464.70	$29,900.00	$45,029.40	$65,780.00	$41,205.19
Hardness	SM 2340C	192	$14.23	$17.00	$20.50	$25.00	$21.46	$2,732.16	$3,264.00	$3,936.00	$4,800.00	$4,120.32
Semi-Volatile Organic Compounds	EPA 625	111	$229.90	$185.00	$248.80	$395.00	$245.02	$25,518.90	$20,535.00	$27,616.80	$43,845.00	$27,197.22
Alkalinity Total	SM 2320B	557	$19.53	$18.00	$20.40	$24.00	$25.79	$10,878.21	$10,026.00	$11,362.80	$13,368.00	$14,365.03
N.P. Containing Pesticides (EPA 507)	EPA 507	242	$86.43	$129.00	$129.00	$129.00	$185.80	$20,916.06	$31,218.00	$31,218.00	$31,218.00	$44,963.60
Chemical Oxygen Demand-COD	SM 5220D	77	$37.30	$25.00	$40.00	$65.00	$42.56	$2,872.10	$1,925.00	$3,080.00	$5,005.00	$3,277.12
Chromium VI (Dissolve)	EPA 218.6	156	$71.24	$29.00	$67.67	$87.00	$78.40	$11,113.44	$4,524.00	$10,556.00	$13,572.00	$12,230.40
Total Phosphate (Dissolve)	SM 4500 PE	73	$37.30	$15.00	$40.17	$65.00	$37.84	$2,722.90	$1,095.00	$2,932.17	$4,745.00	$2,762.32
Dissolved Oxygen (SM 4500-OG)	SM 4500-OG	164	$16.27	$15.00	$21.33	$30.00	$24.84	$2,668.28	$2,460.00	$3,498.67	$4,920.00	$4,073.76
Chlorinated Pesticides (EPA 608)	EPA 608	76	$122.84	$129.00	$156.33	$200.00	$135.97	$9,335.84	$9,804.00	$11,881.33	$15,200.00	$10,333.72
Phenolic	EPA 420.1	98	$29.03	$45.00	$50.00	$55.00	$45.97	$2,844.94	$4,410.00	$4,900.00	$5,390.00	$4,505.06
Mercury (Dissolve)	EPA 245.1	194	$37.30	$30.00	$45.00	$60.00	$59.04	$7,236.20	$5,820.00	$8,730.00	$11,640.00	$11,453.76
												Page 1

MANAGEMENT CONSULTANTS

Test Price Group	Price Method	Actual ETL In-House Volume Nov11-Oct12	Gp. III Rate	Minimum Outsource Rate	Average Outsource Rate	Maximum Outsource Rate	Planned New Rate	ETL Gp. III Rate Revenue	Minimum Outsource Rate Fees	Average Outsource Rate Fees	Maximum Outsource Rate Fees	ETL Draft New Rate Revenue
Volatile Suspended Solids	SM 2540	70	$16.89	$22.00	$30.67	$45.00	$25.74	$1,182.30	$1,540.00	$2,146.67	$3,150.00	$1,801.80
Glyphosate (EPA 547)	EPA 547	98	$91.60	$90.00	$109.50	$129.00	$105.12	$8,976.80	$8,820.00	$10,731.00	$12,642.00	$10,301.76
Total Petroleum Hydrocarbon (TPH)	EPA 418.1		$25.85	$40.00	$57.50	$65.00	$58.57	$0.00	$0.00	$0.00	$0.00	$0.00
Herbicides (EPA 515.3)	EPA 515.3	101	$84.07	$100.00	$130.50	$161.00	$119.89	$8,491.07	$10,100.00	$13,180.50	$16,261.00	$12,108.89
Ammonia Nitrogen-D	SM 4500-NH3 D	1000	$7.54	$25.00	$44.50	$65.00	$32.01	$7,540.00	$25,000.00	$44,500.00	$65,000.00	$32,010.00
Lead GFAA (Food)		82	$14.00	$52.00	$52.00	$52.00	$21.24	$1,148.00	$4,264.00	$4,264.00	$4,264.00	$1,741.68
Sodium	SM 3111B	103	$13.00	$18.00	$19.00	$20.00	$22.43	$1,339.00	$1,854.00	$1,957.00	$2,060.00	$2,310.29
Potassium	SM 3500 K-D	95	$13.00	$18.00	$19.00	$20.00	$22.43	$1,235.00	$1,710.00	$1,805.00	$1,900.00	$2,130.85
Bromide	EPA 300.0	0	$14.23	$40.00	$52.00	$61.00	$26.83	$0.00	$0.00	$0.00	$0.00	$0.00
Calcium	SM 3500 Ca B	35	$13.53	$18.00	$19.00	$20.00	$19.25	$473.55	$630.00	$665.00	$700.00	$673.75
Magnesium	SM 3500 MG B	20	$14.23	$18.00	$19.00	$20.00	$16.46	$284.60	$360.00	$380.00	$400.00	$329.20
Perchlorate	EPA 314.0	31	$65.99	$54.00	$63.00	$75.00	$67.27	$2,045.69	$1,674.00	$1,953.00	$2,325.00	$2,085.37
Carbamate Pesticides (EPA 531.1)	EPA 531.1	28	$92.29	$90.00	$125.50	$161.00	$134.63	$2,584.12	$2,520.00	$3,514.00	$4,508.00	$3,769.64
Lead AA Flame (Leachable)		23	$14.00	$22.00	$22.00	$22.00	$23.11	$322.00	$506.00	$506.00	$506.00	$531.53
Lead AA Flame (Wrapper)		18	$14.00	$22.00	$22.00	$22.00	$23.11	$252.00	$396.00	$396.00	$396.00	$415.98
Corrosivity/Langelier Index (Calculation)	Calculation	6	$58.87	$0.00	$0.00	$0.00	$58.87	$353.22	$0.00	$0.00	$0.00	$353.22
Mineral Balance (Calculation)	Calculation		$0.00	$0.00	$0.00	$0.00	$12.89	$0.00	$0.00	$0.00	$0.00	$0.00
Sulfide	SM4500SE	4	$11.83	$55.00	$55.00	$55.00	$22.65	$47.32	$220.00	$220.00	$220.00	$90.60
E. coli (Colilert Quanti-Tray)	SM 9223		$25.59	$0.00		$0.00	$27.82	$0.00	$0.00	$0.00	$0.00	$0.00
Chlorinated Pesticides (EPA 505)	EPA 505	38	$92.49	$0.00		$0.00	$127.59	$3,514.62	$0.00	$0.00	$0.00	$4,848.42
Pesticides (Pyrethroids) PY-Wipe	CDFA 691	5	$48.79	$0.00		$0.00	$106.50	$243.95	$0.00	$0.00	$0.00	$532.50
Lead GFAA (Other)			$14.00	$52.00	$52.00	$52.00	$21.24	$0.00	$0.00	$0.00	$0.00	$0.00
Pesticides (Organophosphate)MRS-OP	CDFA 691	5	$48.79	$0.00		$0.00	$119.90	$243.95	$0.00	$0.00	$0.00	$599.50
Pesticides (Carbamate) MRS-CB	CDFA 691	9	$48.79	$0.00		$0.00	$169.98	$439.11	$0.00	$0.00	$0.00	$1,529.82
Settle Solids (mL/L)	SM 2540F	12	$8.24	$15.00	$18.20	$22.00	$21.10	$98.88	$180.00	$218.40	$264.00	$253.20
Pesticides (Chlorinated) CH-Wipe	CDFA 691		$48.79	$0.00		$0.00	$116.23	$0.00	$0.00	$0.00	$0.00	$0.00
Taste	SM 2160		$8.24	$0.00	$0.00	$0.00	$17.85	$0.00	$0.00	$0.00	$0.00	$0.00
Pesticides (Chlorinated) MRS-CH	CDFA 691	5	$48.79	$0.00		$0.00	$128.90	$243.95	$0.00	$0.00	$0.00	$644.50
Pesticides (Pyrethroids) MRS-PY	CDFA 691	5	$48.79	$0.00		$0.00	$127.93	$243.95	$0.00	$0.00	$0.00	$639.65
Settle Solids (mg/L) (Inc. TSS)	SM 2540F		$0.00	$15.00	$18.20	$22.00	$32.24	$0.00	$0.00	$0.00	$0.00	$0.00
HPC (Pour Plates)	SM 9215B		$0.00	$22.00	$22.00	$22.00	$30.58	$0.00	$0.00	$0.00	$0.00	$0.00
TPH (State Draft Method 815)	State Draft M815	178	$94.95	$0.00	$0.00	$0.00	$97.50	$16,901.10	$0.00	$0.00	$0.00	$17,355.00
Lead AA Flame (Solid)		8	$14.00	$12.00	$12.00	$12.00	$26.27	$112.00	$96.00	$96.00	$96.00	$210.16
Sulfite		1	$11.83					$11.83				
	TOTALS	**44033**	**2801.39**	**2432.43**	**3186.98**	**4112.43**		**$839,901.49**	**$870,666.24**	**$1,154,233.87**	**$1,565,227.24**	**$1,295,101.05**

	ETL Gp. III Rate Revenue	Minimum Outsource Rate Fees	Average Outsource Rate Fees	Maximum Outsource Rate Fees	ETL Planned New Rate Revenue
Total Fees	$839,901.49	$870,666.24	$1,154,233.87	$1,565,227.24	$1,295,101.05
35% for Other Service	$293,965.52	$304,733.18	$403,981.86	$547,829.53	$453,285.37
Total Fees	$1,133,867.01	$1,175,399.42	$1,558,215.73	$2,113,056.77	$1,748,386.42

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APPENDIX V – GENERAL INFORMATION RELATING TO DPH

This appendix sets out general information about the mission, vision, objectives, plans and role of the DPH as it relates to environmental pollution, environmental water, environmental chemistry, and the ETL.

Public Health Laboratory – A Mandated Function
http://publichealth.lacounty.gov/lab/labmandate.htm
A medical laboratory test is any examination of material derived from the human body for the purpose of providing information for the diagnosis, prevention, or treatment of any disease or impairment or for the assessment of the health of human beings. The State of California regulates two categories of laboratories where medical testing is a primary activity: clinical laboratories including hospital laboratories, and public health laboratories. Although these laboratories perform many of the same testing procedures, there is a major difference in their primary function. Clinical laboratories assist clinicians with individual patients; public health laboratories support the health officer whose patient is the community. The clinical laboratory supports primary patient care; the public health laboratory supports programs to prevent and control communicable disease and environmental pollution, and plays a key role in epidemiologic investigations of disease outbreaks. In addition, the public health laboratory serves as the local infectious disease reference laboratory for clinical laboratories in the same jurisdiction.

There are other significant distinctions between clinical and public health laboratories. As of October 12, 1995, amendments and additions to the California Health and Safety Code require that local health departments of a city or county have available the services of a public health laboratory; local health departments are not mandated to provide clinical laboratory services. Laboratory directors of clinical laboratories may be pathologists but public health lab directors must be certified public health microbiologists. Personnel reporting test results in a clinical laboratory must have a clinical technologist license; personnel reporting test results in a public health laboratory must be certified as Public Health Microbiologists. Clinical technologists cannot perform testing in a Public Health Laboratory unless they are, also, a Public Health Microbiologist. Therefore, a private (or public) clinical laboratory cannot function or substitute as a public health laboratory unless it meets all the criteria stated above.

A generalization of the workload of the Los Angeles County Public Health Laboratory is all testing necessary to support all disease control and environmental health activities within Public Health Programs and Services as well as infectious disease reference testing for all public and private clinical laboratories within Los Angeles County. The Public Health Laboratory supports epidemiologic investigations and programs to prevent and control infectious disease of humans and animals as well as pollution of air, water, and food. Organizationally, PHL is divided into the following sections: Molecular Biology (including Restriction Fragment Length Polymorphism analysis with and without Pulsed Field Gel Electrophoresis technology), General Bacteriology (includes food microbiology and botulism testing), TB and Mycology, Parasitology, Virology (includes opening and autopsy of animal heads for rabies testing), Serology (both human and animal), Environmental Microbiology, Environmental Chemistry, and Support Services.

All staff members testing and reporting laboratory results hold certificates from the state of California in public health microbiology. The remainder of the staff are laboratory assistants and support personnel.

Toxics Epidemiology Program
http://publichealth.lacounty.gov/eh/TEA/ToxicEpi/index_ToxicsEpi.htm

One of the programs of the Department of Public Health is the Toxics Epidemiology Program. It is the mission of the Toxics Epidemiology Program to assess and reduce toxic-related disease and injury, to advocate for solutions to toxic exposures and to educate the public so that they are empowered to protect themselves, their families and their communities in Los Angeles County.

Bureau of Toxicology and Environmental Assessment
http://publichealth.lacounty.gov/eh/TEA/aboutTEA.htm

One of the bureaus in the Department of Public Health is the Bureau of Toxicology and Environmental Assessment. The Bureau of Toxicology and Environmental Assessment is composed of physicians, nurses, epidemiologists, researchers, industrial hygienists, environmental specialists and home inspectors, who identify, control and prevent unwanted health effects associated with toxic agents in the Los Angeles County population. Our vision is for a Los Angeles County where people are safe from toxic agents and can live, work and play in a non-hazardous environment. Three programs carry out these goals: the Toxics Epidemiology Program, the Environmental Hygiene Program and the Lead and Healthy Homes Program. The Bureau listens to concerns about possible toxic exposures in areas of residence, schools and places of business throughout the county. The Bureau responds to these concerns through education and outreach, consultation services and collaborative efforts with regional and state agencies. In addition, the Bureau performs targeted investigations of potential environmental exposures that are relevant to the population of Los Angeles County.

Bureau of Environmental Protection
http://publichealth.lacounty.gov/eh/EP/aboutEP.htm

One of the bureaus in the Department of Public Health is the Bureau of Environmental Protection. The Bureau is comprised of seven, very technical, specialty programs: Cross Connections and Water Pollution Control, Drinking Water, Emergency Preparedness & Response, Land Use, Radiation Management, Recreational Waters, and Solid Waste Management. Although the programs are very diverse in nature, they share one common thread, the protection of public health as well as the environment.

The Drinking Water Program is responsible for regulating small water systems pursuant to state laws and regulations. This includes processing applications and issuing permits for Non-Production Wells, and collecting water samples from small water systems to monitor the levels of bacteria, chemicals, and other elements set forth in the State Drinking Water Standards.
The Recreational Waters Program is responsible for the enforcement of laws and regulations relating to approximately 3,200 public pools in Los Angeles County. This includes swimming pools, spas, wading pools and special purpose pools located at hotels and motels, public and

private schools, health clubs, city and county parks, mobile home parks, resorts and organizations, medical faculties, and water theme parks. In addition, the program is responsible for the plan approvals of all new public pools and renovations of existing pools. The program also certifies individuals as Swimming Pool Service Technicians. All individuals engaged in the business of maintaining pools are required to be certified by Los Angeles County.

We are also responsible for monitoring ocean water and contact sport areas and taking appropriate action when water quality criteria are not met or when an incident, such as a sewage spill, occurs. In addition, staff inspect and conduct bacteriological tests at fresh water swim areas.

The program includes:

- Testing pool water for pH, chlorine residual, alkalinity, and when necessary, cyanuric acid levels, total dissolved solids and calcium hardness
- Conducting inspections and bacteriological monitoring of fresh water swim areas

Plans to Meet Objectives (Services, Budget, Funding, Equipment, Staff,

The PHL has a draft Strategic Plan titled " Strategic Plan 2011-2016. In that plan it states:

"For over six decades, the public health laboratory has been responsible for supporting the diagnostic and environmental testing needs of Los Angeles County."

"The laboratory is also accredited by ELAP (Environmental Laboratory Accreditation Program) to perform analyses using approved methods on drinking water, recreational water, and wastewater."

"The laboratory provides a range of testing services covering the areas of Bacteriology, Mycobacteriology, Mycology, Parasitology, Virology, Immunology, Molecular Diagnostics, Environmental Microbiology, and Environmental Chemistry."

"PHL strategic plan specific objectives have been carefully chosen to support the County of Los Angeles Department of Public Health Strategic Plan in addition to national public health objectives. In 2002, the Association of Public Health Laboratories published a report which defined 11 core functions as part of laboratory organizational capacity (MMWR, 2002, Vol. 51/No.RR-14). …. …. The core essential laboratory functions are defined in sub-objectives 11.1-11.11. These sub-objectives include ….. 4) environmental health and protection"

"Analysis of current PHL functions and services indicate that there are five areas that should be focused on for improvement during this five-year period: 1) integrated data management, 2) environmental health and protection, 3) food safety, 4) laboratory improvement and regulation, and 5) public health related research."

Strategic Priority 4: Expansion of Comprehensive Public Health Laboratory Services
Objective 4.2: Enhance environmental chemistry testing services to include chemical analysis of drinking water and additional surveillance analyses of environmental hazards to community health
Timeline For Strategic Plan:
Year 3: Expansion of comprehensive laboratory services.

Based on these statements by the PHL it would seem that taking the ETL under its wing would fit in with the planned strategy.

APPENDIX VI - SURVEY FORM FOR COUNTY LABORATORIES

Los Angeles County Water Analysis Survey

Introduction

On behalf of the Los Angeles County Department of Public Health, CGR Management Consultants is conducting a survey of laboratories that analyze water in order to determine the best organizational location for such a laboratory within the Los Angeles County organization. Please assist us by answering 14 questions relating to the water analysis performed by your County laboratory. The survey should take only several minutes to complete.

To verify Los Angeles County's approval for this survey please contact Dr. Robert Kim-Farley, Director, Communicable Disease Control and Prevention Division at (213) 989-7161 or rkimfarley@ph.lacounty.gov. If you have questions related to the survey or technical issues related to completing the survey, please contact Jim Kennedy of CGR Management Consultants at (310) 230-3543 or jekennedy@cgrmc.com.

Please respond before December 7, 2012, if possible.

Thank You.

CGR Management Consultants

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Los Angeles County Water Analysis Survey

1. Do you analyze water? If so, what sample types do you analyze?

- ☐ Drinking water
- ☐ Storm water
- ☐ Waste water
- ☐ Beach water (ocean)
- ☐ Well water
- ☐ Swimming pool water
- ☐ Soil
- ☐ Food

Other (please specify)

2. Which analyses are you accredited to perform? (e.g. accreditation by California State Department of Public Health, and/or American Industrial Hygiene Association)

- ☐ Microbiology of Drinking Water?
- ☐ Inorganic Chemistry of Drinking Water?
- ☐ Toxic Chemical Elements of Drinking Water?
- ☐ Volatile Organic Chemistry of Drinking Water?
- ☐ Semi-volatile Organic Chemistry of Drinking Water?
- ☐ Microbiology of Waste Water?
- ☐ Inorganic Chemistry of Waste Water?
- ☐ Toxic Chemical Elements of Waste Water?
- ☐ Volatile Organic Chemistry of Waste Water?
- ☐ Semi-volatile Organic Chemistry of Waste Water?
- ☐ Inorganic Chemistry & Toxic Chemical elements of Hazardous Waste?
- ☐ Organic Chemistry of Pesticide Residues in food?
- ☐ Microbiology of Recreational Water?

Los Angeles County Water Analysis Survey

3. What Title 22 domestic water compliance analyses can you perform (Check all that apply)?

- ☐ General Minerals (e.g. total hardness, calcium, nitrate, fluoride, etc.)
- ☐ General Physical (e.g. pH, specific conductance, color, odor, turbidity, etc.)
- ☐ Inorganics (e.g. aluminum, arsenic, chromium, copper, lead, mercury, etc.)
- ☐ Bacteria (e.g. total and fecal coliform)
- ☐ Trihalomethone (EPA Mthod 524.2)
- ☐ Volatile Organics (EPA Method 524.2)
- ☐ Regulated Organic Chemicals (e.g. EPA Methods 504, 505, 507, 515.1, 531.1, 547)
- ☐ Unregulated Organic Chemicals (e.g. EPA Methods 524.2, 505, 507, 531.1)

Other (please specify)

4. What NPDES permit compliance testing can you perform (Check all that apply)?

- ☐ pH
- ☐ Coliform
- ☐ Chloride
- ☐ Nitrate

Other (please specify)

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Los Angeles County Water Analysis Survey

5. What hazardous materials evaluation can you perform (check all that apply)

- ☐ Total Heavy Metals (e.g. arsenic, chromium, lead, mercury, selenium, zinc)
- ☐ Physical Properties (e.g.pH, flash point, cyanide)
- ☐ Volatile Organics (e.g. regulated and unregulated)

Other (please specify)

6. What lead testing can you perform (Check all that apply)?

- ☐ Soil
- ☐ Canned food
- ☐ Juices
- ☐ Household items

Other (please specify)

7. What pesticide residue testing can you perform (Check all that apply)?

- ☐ Phosphorus-nitrogen pesticide
- ☐ Organochlorine pesticide
- ☐ Carbamate
- ☐ Glyphosate
- ☐ Chlorophenoxy herbicide

Other (please specify)

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Los Angeles County Water Analysis Survey

8. In which part of the County organization is the lab located? (Please indicate which department and/or bureau and/or division and/or section within the County hierarchy, e.g. Health and Mental Health Services / Public Health / Center for Disease Control and Prevention (CDCP) / Laboratory)

9. How much of the necessary analyses are sub-contracted to other laboratories?

- None
- Hardly Any
- Less than Half
- Approximately half
- More than Half
- A Lot

10. What is the approximate annual dollar value of subcontracted analyses?

$

11. How many staff are employed at the laboratory? (Please provide a breakdown into the listed categories if possible)

Executive

Chemists

Toxicologists

Microbiologists

Technicians

Laboratory Assistants

Administrative

Total

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Los Angeles County Water Analysis Survey

12. Are the clients of the laboratory mainly public organizations, e.g. county departments, or private entities?

13. Do you have a published schedule of fees for services that you could send to us? (Please email to jekennedy@cgrmc.com or provide the URL)

14. May we contact you by telephone to discuss this survey? (Please provide the name of the person to contact and the telephone number)

Los Angeles County Water Analysis Survey

Thank you for your willingness to participate in the Los Angeles County Department of Public Health Water Analysis Survey.

APPENDIX VII – RESULTS OF THE SURVEY

The results of the survey were as follows:

1. Do you analyze water? If so, what sample types do you analyze?		
Answer Options	**Response Percent**	**Response Count**
Drinking water	77.8%	7
Storm water	44.4%	4
Waste water	77.8%	7
Beach water (ocean)	44.4%	4
Well water	66.7%	6
Swimming pool water	0.0%	0
Soil	33.3%	3
Food	11.1%	1
Other (please specify)		1
	answered question	9
	skipped question	0

2. Which analyses are you accredited to perform? (e.g. accreditation by California State Department of Public Health, and/or American Industrial Hygiene Association)		
Answer Options	**Response Percent**	**Response Count**
Microbiology of Drinking Water?	88.9%	8
Inorganic Chemistry of Drinking Water?	44.4%	4
Toxic Chemical Elements of Drinking Water?	33.3%	3
Volatile Organic Chemistry of Drinking Water?	33.3%	3
Semi-volatile Organic Chemistry of Drinking Water?	22.2%	2
Microbiology of Waste Water?	66.7%	6
Inorganic Chemistry of Waste Water?	66.7%	6
Toxic Chemical Elements of Waste Water?	33.3%	3
Volatile Organic Chemistry of Waste Water?	22.2%	2
Semi-volatile Organic Chemistry of Waste Water?	22.2%	2
Inorganic Chemistry & Toxic Chemical elements of	33.3%	3
Organic Chemistry of Pesticide Residues in food?	0.0%	0
Microbiology of Recreational Water?	33.3%	3
	answered question	9
	skipped question	0

3. What Title 22 domestic water compliance analyses can you perform (Check all that apply)?		
Answer Options	Response Percent	Response Count
General Minerals (e.g. total hardness, calcium, nitrate,	55.6%	5
General Physical (e.g. pH, specific conductance, color,	55.6%	5
Inorganics (e.g. aluminum, arsenic, chromium, copper,	44.4%	4
Bacteria (e.g. total and fecal coliform)	100.0%	9
Trihalomethone (EPA Mthod 524.2)	22.2%	2
Volatile Organics (EPA Method 524.2)	22.2%	2
Regulated Organic Chemicals (e.g. EPA Methods 504,	11.1%	1
Unregulated Organic Chemicals (e.g. EPA Methods	22.2%	2
Other (please specify)		1
	answered question	9
	skipped question	0

4. What NPDES permit compliance testing can you perform (Check all that apply)?		
Answer Options	Response Percent	Response Count
pH	100.0%	6
Coliform	100.0%	6
Chloride	66.7%	4
Nitrate	83.3%	5
Other (please specify)		2
	answered question	6
	skipped question	3

5. What hazardous materials evaluation can you perform (check all that apply)		
Answer Options	Response Percent	Response Count
Total Heavy Metals (e.g. arsenic, chromium, lead,	100.0%	4
Physical Properties (e.g.pH, flash point, cyanide)	50.0%	2
Volatile Organics (e.g. regulated and unregulated)	75.0%	3
Other (please specify)		2
	answered question	4
	skipped question	5

6. What lead testing can you perform (Check all that apply)?		
Answer Options	Response Percent	Response Count
Soil	75.0%	3
Canned food	50.0%	2
Juices	50.0%	2
Household items	25.0%	1
Other (please specify)		1
	answered question	4
	skipped question	5

7. What pesticide residue testing can you perform (Check all that apply)?		
Answer Options	Response Percent	Response Count
Phosphorus-nitrogen pesticide	0.0%	0
Organochlorine pesticide	100.0%	1
Carbamate	0.0%	0
Glyphosate	0.0%	0
Chlorophenoxy herbicide	0.0%	0
Other (please specify)		2
	answered question	1
	skipped question	8

8. In which part of the County organization is the lab located? (Please indicate which department and/or bureau and/or division and/or section	
Answer Options	Response Count
	8
answered question	8
skipped question	1

9. How much of the necessary analyses are sub-contracted to other laboratories?		
Answer Options	Response Percent	Response Count
None	0.0%	0
Hardly Any	0.0%	0
Less than Half	66.7%	4
Approximately half	0.0%	0
More than Half	16.7%	1
A Lot	16.7%	1
	answered question	6
	skipped question	3

10. What is the approximate annual dollar value of subcontracted analyses?			
Answer Options	Response Average	Response Total	Response Count
$	175,025.00	700,100	4
		answered question	4
		skipped question	5

11. How many staff are employed at the laboratory? (Please provide a breakdown into the listed categories if possible)			
Answer Options	Response Average	Response Total	Response Count
Executive	1.71	12	7
Chemists	7.40	37	5
Toxicologists	.25	1	4
Microbiologists	11.50	69	6
Technicians	5.50	33	6
Laboratory Assistants	4.71	33	7
Administrative	2.13	17	8
Total	22.44	202	9
		answered question	9
		skipped question	0

12. Are the clients of the laboratory mainly public organizations, e.g. county departments, or private entities?	
Answer Options	Response Count
	9
answered question	9
skipped question	0

13. Do you have a published schedule of fees for services that you could send to us? (Please email to jekennedy@cgrmc.com or provide	
Answer Options	Response Count
	8
answered question	8
skipped question	1

14. May we contact you by telephone to discuss this survey? (Please provide the name of the person to contact and the telephone number)	
Answer Options	Response Count
	8
answered question	8
skipped question	1

APPENDIX VIII - NAME, TITLE, AND CONTACT INFORMATION OF SURVEY RESPONDENTS

The respondents submitted the following name, title and contact information:

Water Pollution Control Laboratory, Joel Sears, jsears@isd.lacounty.gov.

Monterey County Consolidated Environmental Laboratory, Amanda Krasa, krasaal@co.monterey.ca.us.

Orange County Public Health Laboratory, Manisha Sulakhe, Public Health Chemist, msulakhe@ochca.com, (714) 834-8439

Riverside County Public Health Laboratory, Anthony Walker, awalker@rivcocha.org.

SRCSD Environmental Laboratory,

San Bernardino County Public Health Laboratory, Linda Ward, lward@dph.sbcounty.gov, (909) 383-3000

San Diego County Public Health Laboratory, Geraldine Washabaugh, geraldine.washabaugh@sdcounty.ca.gov, (619) 692-8500

SFPUC WQD Southeast Wastewater Treatment Plant Lab, Rod Miller, Laboratory Director, rmiller@sfwater.org, (650) 871-3030

Ventura County Waterworks Districts: Al Sexton, al.sexton@ventura.org, 805-378-3022

APPENDIX IX –LISTING OF POSITIONS IN THE ETL

The 18 staff positions at the ETL are:

1. Chief, Environmental Toxicology
2. Supervising Toxicologist
3. Supervising Toxicologist
4. Industrial Hygiene Chemist
5. Lab Assistant
6. Lab Assistant
7. Lab Assistant
8. Lab Assistant
9. Lab Assistant
10. Laboratory Support Supervisor I
11. Secretary 1
12. Senior Toxicologist
13. Staff Assistant II
14. Toxicological Technologist
15. Toxicologist
16. Toxicologist
17. Toxicologist
18. Toxicologist